SEA AND INLAND

FISHERIES

REPORT FOR

1975

AN ROINN IASCAIGH
(Department of Fisheries)

DUBLIN:
PUBLISHED BY THE STATIONERY OFFICE

To be purchased from the
GOVERNMENT PUBLICATIONS SALE OFFICE, G.P.O. ARCADE,
DUBLIN 1

or through any Bookseller.

(Prl. 6147)

Price: 45p

SEA AND INLAND

FISHERIES

REPORT FOR

1975

AN ROINN IASCAIGH
(Department of Fisheries)

DUBLIN:
PUBLISHED BY THE STATIONERY OFFICE

To be purchased from the
GOVERNMENT PUBLICATIONS SALE OFFICE, G.P.O. ARCADE,
DUBLIN 1.

or through any Bookseller.

(Prl. 6147)

Price: 45p

REPORT

OF THE

MINISTER FOR FISHERIES

ON THE

SEA AND INLAND FISHERIES

FOR THE YEAR

1975

Alphabetical List of Contents

Part I. **SEA FISHERIES.**

Part II. INLAND FISHERIES

PART I.

SEA FISHERIES

In 1975 the total value of sea-fish landings reached a record figure of £9.1m exceeding that of 1974 by £0.4m. The biggest increase occurred in the value of landings of shellfish. The value of such landings at £2.4m represented an increase of £0.6m or 35%. The value of demersal fish at £2.9m was an increase of £0.4m over that for 1974. The weights and values of annual landings of seafish (excluding shellfish) since 1966 are set out in the following table:–

TABLE 1

Year	Metric Tons	£'000
1975	65,830	6,763
1974	75,000	6,982
1973	75,200	5,690
1972	75,700	3,900
1971	60,500	2,930
1970	67,300	2,809
1969	54,600	2,105
1968	42,500	1,669
1967	42,400	1,636
1966	31,800	1,454

Details of quantities and values of the different varieties of seafish and shellfish landed in 1974 and 1975 are given in Appendix No. 1. The average price per metric ton obtained for each variety of seafish (other than shellfish) from 1968 onwards is shown in Appendix No. 2.

The leading fishing ports of 1975 in order of value of fish landed were: Killybegs, Howth, Dunmore East, Galway, Cobh, Castletownbere, Burtonport, Kilmore Quay, Skerries and Dingle. As compared with the corresponding order of importance in 1974, Howth continued to rise in importance replacing Dunmore East in second place.

DEMERSAL FISHERY–At 19,971 metric tons the total landings of demersal fish showed an increase of 432 metric tons or 2%. Increases occurred in landings of cod which rose by 549 metric tons or 15% and pollock which rose by 266 metric tons or 29%. On the other hand, landings of haddock continued to show a significant decrease, dropping from 2,410 metric tons in 1974 to 1,019 metric tons in 1975. Decreases were recorded also in the landings of sole and dabs. Whiting was the species caught in greatest quantity and was followed by cod, ray/skate, plaice and pollock in that order.

The total value of the demersal fish catch increased by 14% from £2.5m. in 1974 to £2.9m. in 1975. Cod was first in terms of cash earnings followed by whiting, plaice, ray/skate and haddock. These five varieties contributed 80% of the total value of the demersal fish catch.

Increases in average prices were achieved in most varieties.

The overall average price of all demersal fish landed in 1975 was £144 per metric ton as compared with £129 per metric ton in 1974. This increase was largely due to the higher prices obtained for varieties such as plaice, ray/skate and haddock.

The weights, total value and average value of landings of demersal fish over the past ten years are shown in the following table.

TABLE 2

Year	Quantity	Value	Average Value per metric ton
	metric tons	£'000	£
1975	19,971	2,883	144
1974	19,500	2,527	129
1973	20,400	2,374	117
1972	17,100	1,568	92
1971	20,700	1,590	77
1970	15,300	1,428	93
1969	16,000	1,254	78
1968	15,900	1,112	70
1967	15,900	1,080	68
1966	13,800	996	72

PELAGIC FISHERY–The total pelagic catch of 45,859 metric tons was 9,638 metric tons or 17% less than the figure for 1974. The total value of the catch was £3.9m representing a decrease of 13% on the 1974 figure of £4.5m.

Herrings–Landings of herrings amounted to 28,809 metric tons valued at £3.2m. compared with 39,608 metric tons valued at £3.9m. in 1974.

The 1974/75 winter herring fishery off the South coast which had begun in early October 1974 continued until the middle of February, 1975. The total landings, which were made mainly at Dunmore East and Cobh, amounted to 12,218 metric tons which was 1,160 metric tons higher than in the previous season. The value of the landed catch was £1.3m. During the season 104 boats (excluding some small drifters) took part in the fishery and even though a number of boats left the fishery early or did not participate throughout the season, the fleet in terms of horse power, efficiency and equipment, was the most powerful ever to exploit the stock. After an early start to the season and good fishing during November, the catches throughout the season were very poor. The weather in January was so unsuitable that fishing was only possible on eleven nights during the entire month and although it improved in February, herrings were again very scarce. During the season landings were made on 62 days out of a possible 82. As in the 1973/74 season as a conservation measure and with

the agreement of the fishermen no trawling for herring was permitted on Saturday or Sunday nights.

The South-West coast herring fishery which was mainly exploited by boats fishing from Castletownbere started in August and continued until November. The total landings at 1,281 metric tons were slightly lower than in the previous season but the value at £170,000 was £36,000 higher than in 1974. In addition a further 587 metric tons valued at £66,000 were landed at Bantry and Glengariff by small boats using drift nets during the period October to December.

The 1975/76 winter herring fishery off the South coast (Celtic Sea) began at the end of August 1975 and continued through the year and until the middle of February 1976. The season opened much earlier than in previous years but fishing was poor throughout and total landings were in fact the lowest since the 1965/66 season. The total landings in the period up to 31 December 1975, which were made mainly at Dunmore East and Cobh, amounted to 5,479 metric tons as compared with 8,850 metric tons in the corresponding period of 1974. Because of the poor fishing a number of boats did not participate in the fishery with the result that the total number of boats involved decreased from 104 to 78.

The 1974/75 winter herring fishery off the North-West coast, which had commenced in October 1974, continued until mid-February 1975. A total of 6,983 metric tons valued at £0.7m. was landed in this period, mainly at Killybegs, a decrease of 5,217 metric tons and £0.4m. respectively from the 1973/74 figures.

The 1975/76 winter herring season off the North-West coast commenced in October 1975 and continued to the year's end and until early February 1976. During the season between 12 and 15 pairs of mid-water trawlers took part in the fishery. Landings for the period October to 31 December 1975 amounted to 4,834 metric tons compared with 4,929 metric tons in the corresponding period of 1974.

The herring fishery which has developed in recent years on the West coast continued in 1975. The major portion of the landings was made by boats using paired midwater trawls and up to 48 vessels took part in the fishery. The biggest landings were made in January and February when vessels from outside the area took part in the fishery.

Following the pattern established in recent years very little curing of herring was done ashore and the majority of the catch (either whole or filleted) was exported either fresh or frozen. The amount exported direct to the Continent in luggers decreased considerably. Because of the keen market demand no difficulty was experienced in the disposal of the catch. Herrings were exported to many countries including the Federal Republic of Germany, Netherlands, France, Norway, United Kingdom, Sweden, Poland and Denmark.

Exports of fresh, chilled or frozen herrings amounted to 10,755 metric tons valued at £2,444,000 as compared with 17,509 metric tons valued at £3,630,000 in 1974. The quantity exported in salted and smoked forms was 8,111 metric tons valued at £1,668,000 as compared with 11,681 metric tons valued at £1,880,000 in 1974. A further 3,027 metric tons of herrings valued at £1,116,000 was exported in prepared or preserved form.

The following table shows the total quantity and value and average value per metric ton of herrings landed in each of the past ten years.

TABLE 3

Year	Quantity	Value	Average Value per metric ton
	Metric tons	£'000	£
1975	28,800	3,232	112
1974	39,600	3,950	100
1973	38,900	2,802	72
1972	47,800	2,116	44
1971	31,300	1,163	37
1970	45,500	1,275	28
1969	34,700	784	23
1968	23,000	497	22
1967	23,700	499	21
1966	14,900	399	27

Sprats–Landings of sprats decreased from 7,314 metric tons in 1974 to 3,598 metric tons in 1975, a drop of 51%, while the value of the catch decreased by 61% from £139,000 in 1974 to £60,000 in 1975.

Mackerel–Landings of mackerel amounted to 13,354 metric tons valued at £585,000 as compared with 8,525 metric tons valued at £365,000 in 1974. The average price was £43 per metric ton, the same as for 1974.

The chief landing centres for mackerel were: Killybegs, Castletownbere, Burtonport, Valentia, Dingle, Galway and Schull. Statistics of mackerel landings over the past ten years are given in the following table:–

TABLE 4

Year	Quantity	Value	Average Value per metric ton
	metric tons	£'000	£
1975	13,354	585	43
1974	8,525	365	43
1973	8,314	381	46
1972	4,592	147	32
1971	3,105	118	38
1970	1,051	40	38
1969	1,616	45	28
1968	2,164	49	23
1967	2,245	51	23
1966	1,506	46	31

SHELLFISH–The value of the shellfish catch at £2,374,000 showed a significant increase on that for 1974, despite a considerable drop in Dublin Bay prawn landings from 1,380 metric tons valued at £289,000 to 994 metric tons valued at £237,000. The values of most of the other shellfish landings showed increases over 1974, the most significant of these being lobsters (+£255,800) and oysters (+£166,500).

The values of shellfish landings over the past ten years are given in the following table:–

TABLE 5

Year	£'000
1975	2,374
1974	1,754
1973	1,773
1972	1,417
1971	1,308
1970	1,102
1969	891
1968	735
1967	517
1966	579

EXPORTS–At £13.6m. exports of fish and fish products, including both sea fish and freshwater fish preparations (see Part II of this Report) established a new record. Exports of sea fish preparations were £10.3m. as against £10.1m. for 1974. Details of the exports are given in Appendix No. 4.

PERSONNEL AND VESSELS–In 1975 the description 'full-time fisherman' was standardised on a national basis and defined as a person who in the year under review had been engaged in fishing for periods totalling at least six months. As a result there were, in 1975, 285 fishermen recorded as 'part-time' who would have been regarded as 'full-time' in previous years. The number engaged full-time consequently fell, from 2,510 in 1974 to 2,274 in 1975, while the number of part-time fishermen increased from 4,186 to 4,356. There was a decrease in the number of boats engaged in fishing in 1975, the total being 2,346 compared with 2,420 in 1974. The number of motor fishing vessels over 25 gross tons which are responsible for most of the wet fish catch increased however, from 315 in 1974 to 340 in 1975, while the number of motor vessels of 25 tons gross and under fell from 844 in 1974 to 792 in 1975.

Further details are given in Appendix No. 7.

TRAINING OF FISHERMEN–Theoretical training under the Scheme for Training Boys as Fishermen continued during 1975 at the new fishery school, An Scoil Iascaigh Naisunta (The National Fishery School), at Greencastle, Co. Donegal. As heretofore the period of training extended over 12 months, 5 of which were spent at a shore course provided in the school. During the remainder of the period practical fishing experience was acquired by the trainees aboard selected fishing vessels. A group of 21 boys commenced training under the Scheme on 3 February 1975 and at the end of the year 17 were completing the practical side of the course. A second group of 21 boys commenced their training at the National Fishery School on 1 September 1975 and the course was still in progress at the end of the year.

A start was made on a programme of providing a number of visiting lecturers in specialist subjects and during the year an officer of the

Meteorological Office gave a lecture on Meteorology. An officer of the Naval Service of the Department of Defence spoke to the students about the Sea Fisheries Protection work of this Department.

With the object of promoting major interest in the Department's Scheme for the Training of Boys as Fishermen the Fisheries Division stand at the Spring Show in the RDS, Dublin included an exhibit displaying the various activities carried out at the National Fishery School and detailed information was made available to the many inquirers specifying the financial assistance etc. provided for successful applicants for admission to the school.

Since the Scheme for Training Boys as Fishermen was introduced in 1959, 502 candidates have completed the course. Two shore courses to equip experienced fishermen to qualify as skippers were also held in the National Fishery School during the year. Two fishermen who availed of the courses were subsequently successful in obtaining Certificates of Competency under the Merchant Shipping Act. Since its inception in 1958 this scheme has assisted 125 fishermen in obtaining certificates.

An Bord Iascaigh Mhara continued in 1975 to provide port courses at selected centres and as a result Certificates of Competency under the Merchant Shipping Act were awarded to a further 8 fishermen.

AN BORD IASCAIGH MHARA—The Board received from the Fisheries Vote for the year ending 31 December, 1975 a grant of £2,590,000 in aid of administration and current and capital development. Repayable advances totalling £2,700,000 were also made to the Board from the Central Fund mainly for the provision of boats and gear.

The Board assisted Irish fishermen in acquiring 69 new vessels during the year of which all but two were home built and gave financial assistance for the purchase of one second-hand 65 ft. vessel from Sweden.

The Board's Annual Report on its activities during 1975 is published separately.

SEA FISHERIES PROTECTION—Protection of the exclusive fishery limits involving regular patrols by vessels of the Naval Service of the Department of Defence was maintained in 1975. Prosecutions were instituted against the skippers of eight foreign vessels who had been arrested for illegally entering and fishing inside our exclusive fishery limits. Convictions were secured in seven cases of which three were under appeal at the close of the year. In the conduct of these cases and in the enforcement of fishery protection measures generally, the co-operation of the Garda Siochana was readily available.

EXPLORATORY VESSELS—During the year, due to recurrent mechanical faults in the Department's exploratory fishing vessel "Cú Feasa", its programme of research and development was considerably hampered. The Cú Feasa's main operations were surveys of demersal species and young herring in the Irish Sea.

In November a sea-bed survey, lasting four days, was carried out south of Roches Point, Co. Cork, in connection with proposals to lay a pipe-line

on the sea-bed to the mainland from Kinsale Head Gas Field with the object of assessing the implications for fishery interests and the specification of remedial measures where found to be necessary. A local trawler was chartered for the survey which was carried out by the Department's Assistant Engineer and Senior Surveyor (Hydrographic).

MARINE WORKS—At Killybegs Fishery Harbour Centre work reached an advanced stage by the end of 1975 on the construction of the new landing pier and servicing quay east of the Town Pier and of the jetty extension to the Blackrock Pier. The Department had consultations with the local fishermen and with Officers of An Bord Iascaigh Mhara about the location of the proposed syncrolift. Arrangements were made for the carrying out of a boring survey to determine if the site subsequently selected for the syncrolift would be suitable. Expenditure on the development works at Killybegs during the year was £272,220.

At Castletownbere Fishery Harbour Centre work on the construction of the wharf and the syncrolift on Dinish Island progressed satisfactorily. Considerable headway was made in preparing for the provision of services and the development of an industrial estate on the island for the fishing industry. New oil bunkering facilities have been provided on the mainland quay. Expenditure on the development works at Castletownbere during the year was £268,800.

At Rossaveel, Co. Galway, work on the provision of a new fishery harbour was well advanced. Demands for the further extension of the facilities to be provided there were received and outline proposals were discussed with the local fishermen. Gaeltarra Eireann commissioned a firm of consultants to carry out an assessment of the present and future potential of this fishery harbour. A full cost grant is being given by Roinn na Gaeltachta for the harbour construction works at Rossaveel.

Fishery harbour improvement works grant aided by the Department of Agriculture and Fisheries were completed during the year at Burtonport and Greencastle, Co. Donegal; Pollacheeny and Aughris, Co. Sligo; and Cuan na Luinge, Co. Galway. Inprovement works which were recommended by the Department and financed by Roinn na Gaeltachta were completed at Teelin, Malinmore and Carrig An Eanaigh, Co. Donegal; Rinroe, Porturlin and Dooega, Co. Mayo; and Spiddal, Co. Galway.

Fishery harbour works assisted by grants from the Department of Agriculture and Fisheries were in progress at the end of the year at Tipp and Belmullet, Co. Mayo; Moville, Co. Donegal; Mullaghmore, Co. Sligo; Seafield, Co. Clare; and Knightstown, Co. Kerry. Improvement works which were recommended by the Department and financed by Roinn na Gaeltachta were in progress at the end of the year at Ballywhooriskey and Magheraroarty, Co. Donegal; Dingle, Ballinrannig and Minard, Co. Kerry.

EUROPEAN ECONOMIC COMMUNITY—Customs duties on exports of Irish fish and fishery products to other member States of the Community were reduced from 1 January 1975 to 40% of the duties which applied before accession under the Accession Treaty arrangements. The reduction in duties was of significant benefit to our exports of processed herring, shellfish and salmon. The reciprocal reduction in Irish duties on imports from the Community had no effect on the home market. The

second stage in the alignment of Irish duties to the EEC Common Customs Tariff (CCT) applicable to imports from non-EEC countries also came into effect from 1 January 1975; this applied to processed fish only as the Irish rates of duty already correspond to the CCT in the case of fresh and frozen fish.

The guide and withdrawal prices for the varieties of fish coming under the Community's withdrawal price system were increased on three occasions during the year arising from decisions by the Council of Ministers in March, August and October to reduce the representative rate for the Irish £ for the purposes of the Common Agricultural Policy. Prices after October were therefore 13% higher than those which applied at the beginning of the year.

The guide and withdrawal prices for the 1976 fishing season, which were fixed by Regulations 3305/75 of 16 December 1975 and 3372/75 of 23 December 1975 respectively showed substantial increases for most varieties over those which applied previously. Market intervention did not occur during the year as no producers' organisation had been established in time but recognition was granted by the Parliamentary Secretary to the Minister for Agriculture and Fisheries, Mr. Michael Pat Murphy TD, on 30 July 1975 to a national producers' organisation of fishermen which would be in a position to operate the withdrawal price system early in 1976.

Under the FEOGA Individual Projects Scheme (Guidance), nine fishery projects comprising five applications for aid towards the purchase of 21 fishing vessels and four processing projects were approved by the EEC Commission for grants amounting to a total of £799,726. The projects were among those submitted to the Commission in 1974. Under the 1975 Scheme of grants, twenty-nine projects comprising twenty-one for the purchase of fishing vessels and eight processing projects were submitted to the Commission. A decision on these was not expected until 1976.

Proposals for the restructuring of the inshore fishing industry of the EEC generally were submitted by the Commission to the Council of Ministers in November. The proposals are for the provision of grants towards the purchase of fishing vessels, the construction of shore installations for fish processing and marine fish farming—which would replace the grants already available under the FEOGA Individual Projects Scheme — and the introduction by member states which consider it necessary of financial inducements to encourage people in fishing to leave the industry. The latter proposal includes the payment of annuities to fishermen aged between 55 and 65 who undertake to voluntarily retire and the granting of premia for breaking up fishing vessels of 15 years or older. Detailed study of the proposals was commenced by Fisheries Division and by the various interests within the Irish fishing industry.

There were further discussions at Council working group level on the draft regulation on conditions for granting national aids under the common structural policy for sea fishing but the discussions had not reached a conclusive stage by the end of the year.

RESEARCH AND DEVELOPMENT—During the year ten Fishery Leaflets on marine topics were published, the details of which are given on page 70. The Research and Development work of the marine staff concerns itself

with pelagic fish (species living in mid-water), demersal fish (bottom living species), shellfish, environmental and pollution studies.

1. Pelagic Species

(a) *Herrings.* The Celtic Sea herring stock provides a clear example of the way that this species reacts to increasing fishing effort. The Table below shows the average catch of herrings per season, the total fishing effort (expressed as number of fishing nights by pelagic trawlers) required to achieve the seasonal catch and the catch per effort, for the period 1963 to 1975.

TABLE 6

Fishing Season	Total Catch (in tons)	Fishing Effort	Catch per Effort
1963/64	3,786	502	7.5
1964/65	2,999	318	9.4
1965/66	3,533	389	9.1
1966/67	8,180	515	15.9
1967/68	10,947	643	17.0
1968/69	12,174	646	18.8
1969/70	16,673	867	19.2
1970/71	19,060	970	19.6
1971/72	13,724	1,179	11.6
1972/73	18,800	1,159	16.2
1973/74	10,697	960	11.1
1974/75	11,819	1,062	11.1
1975/76	6,582	1,063	6.2

In the early 1960s, the stock recovered well after a period of heavy fishing during the late 1950s. The recovery was due mainly to a decrease in the fishing effort. Thus there was no immediate cause for alarm. However during the middle 1960s, fishing effort increased rapidly. This increased fishing effort produced increased total catches and the stock was able to withstand this because it was still in a healthy condition due to a number of very successful spawning seasons in the late 1960s. Thus the total catch and the catch per effort increased, reaching a peak in the season 1970/71, when with only a total of 970 nights of fishing, a record 110,816 crans (19,060 metric tons) of herring were caught, providing a catch of 114 crans (16.6 metric tons) per night's fishing. From 1970 onwards the reduction in total catch and catch per effort has fallen by well over half, to 38,267 crans (6,582 metric tons) and 36 crans (6.2 metric tons) per night's fishing in 1975/76. The important point to remember is that while total catch and catch per effort have been declining at an alarming speed, fishing effort, i.e. the rate of fishing (which has produced fewer herring), has increased and remained higher than the record 1969/70 season. This is a classic example of overfishing because it shows that increased fishing effort did not produce a sustained increase in the total catch. The conclusion is that this stock is in a very serious state of depletion. Only stringent conservation measures can build up the stock so that it can reach its former strength and fishing potential.

The herring fisheries off the South West coast, (Cork and Kerry), those off the North West coast, (Mayo and Donegal) and those of the Irish Sea (the Manx/Mourne stocks), continued to be studied in depth. Quotas were set for the Celtic Sea and the Mayo/Donegal fisheries for 1975. These were 18,000 metric tons and 13,700 metric tons respectively, for the Irish fleet.

With the assistance of an undergraduate of Sligo Regional College of Technology, O-group herring along the east coast of Ireland were studied during the summer of 1975 and this work included surveys by the research vessel Cú Feasa to estimate the abundance of young herring in the Irish Sea.

(b) *Sprats.* The studies of the composition of the catch being reduced for fish meal at the Mornington, (Co. Meath) plant was intensified in 1975 on a regular basis. Particular attention was given to the sprat component of the catch. At the same time, details of the other species caught incidentally were recorded, notably the quantities of herring involved. This work will be continued, emphasis being placed upon the ratio of sprat to herring in the reduction process, but with special attention being given towards making an assessment of the sprat population of the Irish Sea.

(c) *Mackerel.* In recent years large catches of mackerel have been taken off the South and South East coasts of Ireland by Continental boats, fishing offshore. Because of this, and with renewed interest by Irish fishermen in mackerel fisheries, investigations of this species were recommended in 1975. This work will be intensified in the years to come. During 1975 mackerel caught off the South coast (ICES Division VIIg-k), off the West coast (ICES Division VII b-c) and off the North West coast (ICES Division VI a) were examined for the normal biological characteristics. These samples were divided amongst drift net caught mackerel (mainly west Cork) and trawl caught mackerel (mainly from Galway and Burtonport). A total of 862 mackerel were examined and the ages of 325 of them were determined. The preliminary results of this examination show that very large stocks of mackerel frequent the Irish Continental Shelf, but their age distribution suggests that stocks are under such heavy pressure from fishing that the excessive level is being rapidly reached.

2. *Demersal Species*

(a) *Cod.* Commercial samples of cod were sampled for length, weight and age at Killybegs on a regular basis throughout 1975. A total of 1,247 cod were examined. In addition 1,428 cod consisting partly of commercial and partly of research vessel catches were examined in a similar way at Howth. In October 1975, a research vessel cruise was undertaken to determine the number of 0- and 1- group cod in the stocks. The future success of the Irish Sea cod fishery, which is our largest, depends upon the strength of these two year classes of juvenile fish.

The cod caught at Killybegs throughout 1975 belong to the year classes of 1972 and 1971 (3 and 4 year old fish respectively). They contributed as much as 40% of the total weight landed. The Killybegs cod fishery may be improving because by the end of 1975 a moderate number of recruiting 2 year old cod (born in 1973) were appearing in the catches. This cod fishery is dependent mainly upon adult fish, and three-quarters of the total landings for the year were made during the peak spawning months of February and March.

The cod fisheries in the Irish Sea, as in 1974, were again successful and dependent on 2 and 3 year old fish.

(b) *Haddock.* The sampling procedure for haddock is similar to that for cod and the main port of investigation was Killybegs. In the case of

Killybegs 2,916 haddock were examined in the usual way. The high catches of haddock from the Killybegs fishery in recent years have been based on the fish of the very strong year class of 1967. These haddock were 8 year olds in 1975 and are now virtually fished out. In the absence of a similar strong year class entering the stock since 1967, this fishery will yield reduced catch rates over the next few years. There are some indications, however, that the 1974 year class may be above average strength and thus catch per unit of effort may show an improvement in 1977 or 1978. Fluctuations, of considerable size, are a feature of all haddock populations.

(c) *Whiting.* Small scale sampling was undertaken in the Irish Sea and along the South West coasts during 1975, but these had not been fully analysed by the end of the year.

(d) *Plaice.* Sampling was carried out coastwise from Howth, Co. Dublin, via the South and West coasts, to Greencastle, Co. Donegal. Plaice sampling procedure differs somewhat from that of roundfish, in that the sex of the plaice, (after gutting) can be determined readily thus permitting calculations of growth and mortality rates to be made separately for males and females.

In addition to port sampling, the research vessel Cú Feasa undertook cruises in the late Autumn of 1975 along the east coast from Dalkey (53°15' N) to Carlingford (54° 00' N). The aim here was to investigate the distribution and length range of juvenile plaice by fishing with a small-meshed 3 metre beam-trawl. A total of forty-six hauls yielded 800 small plaice with a modal size of 9-10 cm and a secondary mode at 16-17 cm, representing O-group and 1-group fish (born in 1975 and 1974 respectively). Continued sampling of this kind will enable forecasts to be made of the expected rate of annual recruitment to the Irish Sea plaice fishery, based on the information of relative year class strengths.

(e) *Sole.* Small quantities of sole were sampled at various ports along the West coast of Ireland, during 1975. However, analysis of these data had not been completed by the end of the year.

3. *Shellfish*

3.1. *Crustacea*

(a) *Nephrops norvegicus* (Dublin Bay Prawns). A trawling experiment was undertaken off the South West coast in August 1975, designed to recapture those *Nephrops* which had been marked and liberated in this area in 1974. The purpose of this experiment was to determine the natural rate of annual growth by this species. However, the results were very disappointing because very few of the marked *Nephrops* were recaptured. Those which were recaptured showed annual growth increment increases in carapace of 1.5 mm (female) and 5 mm (male). Similar increases were noted from 1973 to 1974, and this suggests that *Nephrops* is a relatively slow growing animal.

(b) *Lobster, crawfish.* The shellfish research and development work undertaken at Dunmore East Fisheries Station was continued in 1975 and was concerned with expanded physiological studies aimed especially at optimising the conditions for the successful holding of live crawfish and lobsters. Large stocks of both these species were held at the Fisheries

Station at Dunmore East throughout the catching season, and were used to study the excretory behaviour of crustacea in storage. The build up of excretory wastes in water is one of the chief causes for the unsuccessful holding of live lobsters and crawfish. The studies (reported as guidelines in Fishery Leaflet No. 64) have been sufficiently advanced to enable three new storage pounds (at least) to be established for commercial use, based upon a design and a method of operation developed by the Division's scientific staff at the Dunmore East Station. A very important and cost saving feature of this design has been its ability to re-cycle water over long periods without experiencing undue oxygen depletion. When the problem of reducing the excretory products, mainly ammonia, is solved, these storage pounds will be capable of holding much larger quantities of lobsters or crawfish than at present.

Two types of filter have been tried, the first using crushed oyster shell and the second using charcoal. With crushed oyster shell, it was found that 8½ kilograms of lobster or crawfish could be held without ill-effect per 500 litres of water. Using charcoal, the weight could be stepped up to 14 kilograms per 500 litres of water, at a temperature of 20°C.

Experiments were carried out designed to measure the rate of production of ammonia by lobsters and crawfish in storage. The breakdown of ammonia by-products of lobster can be achieved by bacteria which consume nitrogen and release oxygen. The experiments show that the production of ammonia under normal storage conditions is 20 milligrams per hour per kilogramme of body weight. In other words a 1 kilogram (2.2 lb) lobster will produce 480 milligrams of ammonia per day, so this becomes the target for reduction by bacteria. Work on ammonia reduction continues and when it has been completed satisfactorily, the Division will have developed a type of storage which can be practised with success in any part of the country, urban or rural without the necessity of being sited near sea-water.

Lobsters. Work with this, the most valuable species of shellfish in the Irish Sea catch, was continued in 1975. The 500 lobsters which were tagged at Kilmore Quay, Co. Wexford at the end of the normal fishing season in October 1974, were exposed to fishing in 1975. The interest of the fishermen in this experiment was reflected in the fact that almost 30% of the lobsters have been recaptured to date, and the information provided by them adds vitally important information for the effective management of lobster stocks generally. Of the 144 lobsters recaptured, 82 or 62.6% had moulted thus providing information on growth rate and weight increase. All recaptured lobsters were retained in the holding tanks at Kilmore Quay by kind permission of the Fishermen's Co-operative Society and, after examination, were returned to the fishing areas, where they will again be exposed to fishing in 1976. In this way it is hoped to maximise the information obtained about annual growth rate and weight increases.

With the assistance of a zoology undergraduate of University College, Dublin, lobsters from many parts of the coast were studied at Kilmore Quay.

The lobster census for 1973 was published as Fishery Leaflet No. 65, and this work is continuing because it provides information on the effects of fishing effort on the stocks of lobsters. A Lobster Working Group set up by the International Council for the Exploration of the Sea, held its first meeting in Nantes, France chaired by the representative from Ireland.

3.2. *Mollusca*

(a) *Oysters.* The work on oysters at Tralee Bay was brought to its final stages in 1975. The oyster stocks of this area have been studied since 1966 and a complete description can now be made of spawning, spat (baby oyster) settlement and survival, recruitment and adult stock strength. This, together with the hydrographical and physical data collected over the period, provide the means for the full management of this valuable oyster fishery, which is capable of very considerable improvement and expansion.

There was a very heavy spat fall in Tralee Bay from July 1 to 21, 1975, and these spat had a high survival rate and excellent settlement, thus indicating that when they mature in the 1978 season, there should be a record catch of oysters. A feature of the Tralee Bay oyster stock has been its ability to spawn successfully, almost every year, since our investigations commenced and therefore its future can be assured by the application of sound management principles. To assist with management, the Division placed polythene spat collectors, of French design, in areas of the Bay where previous experience of current movements indicated that oyster spat would congregate and settle. Excellent results were obtained. Eleven years of spat fall monitoring have shown that the annual settlement in areas which can now be pin-pointed, is sufficiently consistent and heavy to warrant large scale use of spat collectors each year. With proper management the output of adult oysters from Tralee Bay could be vastly increased and a surplus of oyster spat produced.

(b) *Mussels.* Research and development work on mussels was continued in 1975, the main emphasis being upon the location of hitherto undescribed stocks and the development of new types of raft for the culture and farming of mussels.

A member of the scientific staff acted as adviser to Gaeltarra Eireann on its grant aided mariculture ventures, particularly in Killary Harbour, where important mussel culture advances are being made.

(c) *Escallops.* Investigations into the controlled cultivation of escallop *(Pecten maximus)* were carried on in Lough Hyne, a deep-water inlet with a sill entrance on the south coast of Ireland. Polyprophylene spat collectors were successfully used in two forms—woven into onion bags, and shredded as artificial sea grass. Adult white-shelled escallops were induced to spawn in flow trays, and the larvae raised in floating plastic pools on the surface of Lough Hyne for four days before being released into the Lough.

Observations on adult white escallops in underwater pens at a density of 50 per square metre showed them to have a higher growth rate than escallops outside the pen at a density of 2 to 3 per square metre.

4. *Marine Pollution* (see also under Engineering—page 20).

In recent years there has been a growing tendency for any new major "pollution-prone" industry to be established on the coast so that water pollution control for new industry has tended to be more a marine rather than an inland problem as effluent disposal from such industries has been mainly by direct discharge into the sea or estuaries.

In 1975 the work of the Department's scientific advisers in this area was consolidated by the establishment of an Aquatic Environmental Unit.

The main functions of this unit are:—

(a) To monitor the aquatic environment (Sea and Inland) including water, sediments, fauna and flora for their content of specified pollutants.

(b) To advise other authorities in Ireland on agricultural, domestic and industrial wastes and their effects on the aquatic environment.

(c) To establish an on-going "bank of knowledge" on various pollutant impingements on fisheries, e.g. the presence of heavy metals in fish tissue so that specific certificates can be issued to satisfy the latter day requirements of authorities in different countries which are importers of Irish fish and fishery products. The work of the unit includes "tailor-made" and detailed base line studies including the determination of natural conditions where the environment is unaffected by pollution and these basic studies are used as a guide to the effects of any possible subsequent pollution. The unit also deals with the scientific investigation and analysis of all applications for licences (including dumping at sea) under the Pollution Control provisions of the Fisheries Acts.

5. *Laboratories and Stations*

Work on the construction of a Field Station at Castletownberehaven, Co. Cork was continued in 1975, and this Station will be available in 1976 for pelagic and demersal fish research. The construction of the Fisheries Laboratory at Abbotstown, Co. Dublin, commenced in December 1975 and occupation of this establishment is expected by the Summer of 1977. Progress was made with the establishment of special Stations at Kinsale, Co. Cork, and Ballyglass, Co. Mayo in 1975. The aim of the Division is to establish a Laboratory and satellite Field Stations at the important places on the coast where research and development of particular species can be carried on, at sites nearest to their major potential.

6. *Rare fishes*

The Division continues to document the occurrence of rare fishes. In many cases, "rarity" is a somewhat arbitrary term, because many of the species referred to as "rare" fall into this category only because few reports of their occurrence are received, when in fact they may be more

abundant than the number of reports would suggest. However, the value of retaining these records lies in the fact that many of the common species of fish are under such fishing pressure that fishermen may have to divert their fishing effort to other species. At that stage the "rare" fish list may become an important guideline to the availability of alternative species.

During 1975 interesting, rare or scarce species of fishes taken within the 100 fathom line were as follows:

SPECIES	AREA OF CAPTURE
Smooth hound *(Mustelus mustelus)*	Dingle Bay
Undulate ray *(Raja undulata)*	South West coast (54 specimens)*
Painted ray *(Raja microocellata)*	Garryvoe*, Brandon,* Fenit*.
Sturgeon *(Acipeuser sturio)*	Helvick (2 specimens), Castletownbere.
Salmon *(Salmo salar)*	A number of snub-nosed specimens received.
Ocean or Snake pipefish *(Entelurus aequoreus)*	Slea Hd., Co. Kerry and Cruit I., Co. Donegal.
Broad-nosed or Deep-snouted pipefish *(Syngnathus typhla)*	Roaring water Bay, Castletownberehaven, Ventry Harbour.
Torsk *(Brosme brosme)*	Achill*
Lesser fork-beard or Tadpole-fish *(Raniceps raninus)*	Blasket Island
Boarfish *(Capros aper)*	Brandon Bay
Ray's bream *(Brama brama)*	Courtmacsherry*, Clifden*, Valencia*.
Red mullet *(Mullus surmuletus)*	Broadhaven Bay
Black bream *(Spondyliosoma canthorus)*	Blasket Island
Red band-fish *(Cepola rubescews)*	Dingle
Blackfish *(Centrolophus niger)*	Achill, Hook Hd., Slea Hd.
Thick-lipped grey mullet *(Crenimugil labrosus)*	Many juvenile specimens trapped in pool at L. Ine, Co. Cork.
Redfish *(Sebastes marinus)*	Dingle Bay
Streaked gurnard *(Triglaporus lastoviza)*	Brandon Bay (3 specimens)
Norway topknot *(Phrynorhombus norvegicus)*	Roaringwater Bay
File-or Trigger-fish *(Balistes carolineusis)*	Co. Kerry (34 specimens) Counties Donegal, Wexford, Cork and Mayo.

*Caught on rod and line.

ENGINEERING

Fishing Ports and Landing Places.—In continuation of the arrangements made in previous years to appraise the existing landing facilities and to make recommendations for works required to meet the present and expected needs of the fishing industry, the Survey Team appointed to inspect and make recommendations for the fishing ports and landing places in Co. Wicklow completed this assignment and the report was ready for presentation to Mr. Michael Pat Murphy, Parliamentary Secretary to the Minister for Agriculture and Fisheries at the end of the year. As in previous years the team engaged on this survey acted under the chairmanship of Mr. S. O Meallain, Consultant to the Department, and comprised representatives of the Department of Agriculture and Fisheries, the Office of Public Works, Wicklow County Council, Bord Failte and An Bord Iascaigh Mhara. Survey Team Reports had, up to 31 December 1975, been carried out for every county except Counties Dublin, Meath and Louth.

Work continued on the implementation of the recommendations made in previous years for various counties by the Survey Teams. These recommendations were reviewed and brought up-to-date where necessary to take account of developments in the fishing activities at the various centres for which the recommendations were made and, where necessary, suitable adjustments were made.

At the request of the Harbour Committee of Waterford County Council the Inspector and Engineer participated in a preliminary investigation by this Committee of the fishery harbours in Waterford county and discussed with the Committee possible lines of future development that could be undertaken by the County Council.

There were discussions with representatives of Louth County Council and their consulting engineers about possible repairs and improvements to the landing facilities at Port Oriel, Clogherhead, Co. Louth.

Marine Pollution.—The water quality monitoring survey of Cork Harbour was continued during the year in collaboration with Pfizer Chemical Corporation. Surveys were carried out at critical periods during neap tides and spring tides in the Spring and in the Autumn.

A similar type water quality survey of Castletownbere Harbour was started in January and completed in December.

On each occasion samples of water from six monitoring stations were taken and submitted for analysis to the State Laboratory. The intention is to establish a base line for monitoring programmes to be conducted hereafter at six monthly intervals to provide an early warning of any marked deterioration in water quality so as to provide ample time for remedial action. This routine of sampling has already been introduced in Killybegs Harbour following the completion of a similar type survey there in 1974.

There were continuous discussions with the sponsors of twelve major projects for which large quantities of effluent would be discharged into our principle estuaries to ensure that all practicable steps would be taken to protect the fishery interests. The effects of the discharge of effluents

for which Section 171 Licences had been issued were monitored and in a number of cases failures to reach the specified conditions set out in the Licences were the subject of investigation and consultation with the firms concerned and remedial measures were arranged.

One proposal involving dumping at sea was investigated and the dumping licenced. Allegations of responsibility for unusual conditions obtaining elsewhere were disproven.

Various EEC Directives or proposed Directives were examined in detail and commented upon or appropriate arrangements made where necessary.

Continental Shelf Exploration and Exploitation.—Sponsors of seismic investigations continued to keep the Department informed of their proposals and these have been examined and considered for likely implications for the fishery interests.

During the year an Inter-Departmental Working Group was set up by the Minister for Industry and Commerce to co-ordinate the actions of the various Departments in relation to Kinsale Head Gas Field project with a view to expediting its implementation and ensuring that the requirements of the various Government agencies are properly provided for in the design, execution and operation of the scheme. The Inspector and Engineer was nominated as the Departmental representative on this Working Group.

A Working Committee on Production Platforms consisting of representatives drawn from several State Departments, State sponsored bodies and local authorities was established by the Minister for Industry and Commerce to formulate a national policy on the construction of production platforms in Ireland to ensure that the country gets as much benefit as possible from the off-shore activity and at the same time keep problems to a minimum. The Department was represented on this committee by the Inspector and Engineer, the Inspector and Scientific Adviser and a representative of Administration and its findings, conclusions and recommendations were issued on 30 September, 1975.

TECHNOLOGY

Fish Quality Regulations.—The fish quality officers continued to supervise fish landings to ensure compliance with the Demersal Fish (Handling, Storage and Transport) Regulations, 1967, as amended by the Demersal Fish (Handling, Storage and Transport) Regulations, 1973.

Further consideration was given to the possibility of introducing regulations with the object of improving the handling, storage and transport of pelagic fish and molluscan shellfish.

Fishery Products—Processing.—During the year a number of proposals for the development of existing fish processing plants and the initiation of new schemes for the enhancement of the value of existing products by the carrying out of further processing in Ireland were investigated, the sponsors advised and the grant worthiness of the projects commented on.

A number of proposals to set up fully integrated processing plants were examined and the suitability and viability of the projects evaluated.

Fishery Products–Export Control.–The control of the export of certain fishery products under licence in compliance with the Orders made in 1971/1973 by the Parliamentary Secretary to the Minister for Agriculture and Fisheries under the Agriculture and Fishery Products (Regulation of Export) Act, 1947, operated satisfactorily during the year in respect of those products for which the Institute for Industrial Research and Standards had formulated standard specifications. Export licences were granted for those products for which applicants were licensed by the Institute for use of its Standard Mark.

With the introduction of special regulations governing the import of fishery products to the Federal Republic of Germany special arrangements were made with the State Laboratory for the determination of the mercury content of various fishery products. On the basis of the results obtained from these analyses suitable certificates were issued in respect of the products exported.

Standard Specifications for Fishery Products.–The Inspector and Engineer continued to act as Chairman of the Working Group comprising representatives of the Department of Agriculture and Fisheries, An Bord Iascaigh Mhara, the Institute for Industrial Research and Standards and members of the fish trade to advise the Institute for Industrial Research and Standards on the formulation of standards for fishery products.

National Codex Alimentarius Committee.–The Sub-Committee on Fish and Fishery Products continued to advise the National Codex Committee on Codex matters of importance to Ireland arising in the formulation of International Codex Standards for Fish and Fishery Products. The Sub-Committee under the Chairmanship of the Inspector and Engineer, consisted of representatives of the Department of Agriculture and Fisheries, the Institute for Industrial Research and Standards, An Bord Iascaigh Mhara, the State Laboratory and the Confederation of Irish Industries.

INTERNATIONAL AND OTHER CONFERENCES

Third Session of United Nations Third Conference on the Law of the Sea.–Ireland was represented by Officers of the Department at meetings in Brussels of the EEC Co-ordinating Group engaged in the preparation for the UN Conference on the Law of the Sea. During Ireland's term of Presidency of the EEC the Inspector and Engineer presided as Chairman of the Working Party of Experts on Fishing Problems responsible for preparing for the Third Conference on the Law of the Sea. This took place in Geneva from 17 March to 3 May at which the Department was represented by Mr. S. O Meallain, Consultant to the Department. The Inspector and Engineer and the Department's Consultant represented the Department at a Working Group set up by the Department of Foreign Affairs to prepare for the Conference.

Codex Alimentarius Committee on Fish and Fishery Products.–The Department's Inspector and Engineer attended as a Delegate at the Annual Meeting of the Committee on Fish and Fishery Products of the Codex Alimentarius Committee which was held in Bergen, Norway, in October

in connection with the preparation of international standards for various fishery products.

West European Fish Technologists' Association.—The Inspector and Engineer represented Ireland at the Sixth Annual Meeting of this Association which was held in Ostend, Belgium, from 8 to 10 September, 1975. An Officer of An Bord Iascaigh Mhara was also in attendance.

Inter-Governmment Consultation on Fishery Harbour Planning.—The Inspector and Engineer of the Department of Agriculture and Fisheries and the Chief Engineer of the Office of Public Works represented Ireland at this Conference held in FAO Headquarters, Rome in July, 1975.

Working Group on Sensory Assessment of the West European Fish Technologists' Association.—There were two meetings of this group during the year to discuss further the difficulties inherent in existing EEC proposals for a Council Regulation concerning common marketing standards for certain species of frozen sea fish with a view to putting forward the principles of an alternative approach to the problem of timing and regulating standards for frozen fish. The first meeting was held in the Institute for Fishery Products, TNO, IJmuiden, The Netherlands, in April 1975 which was attended by one of the Engineers. The second meeting was held in the Rijksstation voor Zeefisserij, Ostend, Belgium in September and was attended by the Inspector and Engineer.

National Committee for Geodesy Geophysics.—The Inspector and Engineer was the Departmental representative on this Committee.

Marine scientific staff representation at meetings at home and abroad

Home

(i) Department of Agriculture Committee on Pollution.
(ii) Inter-Departmental Committee on Pollution.
(iii) Mariculture Workshop, Carraroe, Co. Galway.
(iv) Advisory role to Gaeltarra Eireann on oyster farming.
(v) Advisory role to Gaeltarra Eireann on mussel farming.
(vi) Membership of the National Science Council Panel on the Environment dealing with water pollution.
(vii) Membership of the National Science Council's Marine Science Committee.

Abroad

(i) International Council for the Exploration of the Sea, ICES.
(ii) Scientific Advisory Committee of the Oslo Commission on Marine Pollution.
(iii) Technical Working Group on the Interim Paris Commission on Marine Pollution from Land-based Sources.
(iv) ICES Working Group on Lobster Fishery Management.
(v) ICES Working Group on mariculture practice.
(vi) ICES Working Group on herring population assessments.
(vii) ICES Working Group on the exploitation of marine aggregates.
(viii) ICES Working Group on flat fish assessment.
(ix) Working Group on *Nephrops norvegicus* stocks.
(x) ICES Working Group on pollution baseline and monitoring studies in the Oslo Commission and ICNAF areas.

(xi) EEC Committee to determine water quality criteria for aquatic life.
(xii) EEC Committee to determine water quality criteria for shellfish farming.
(xiii) European International Biological Association.
(xiv) Challenger Society Meeting, London.
(xv) Special UK/Ireland meeting on shellfish diseases and control of their spread.
(xvi) Meeting of ad hoc *Nephrops norvegicus* behaviourists group at University of Sussex, Brighton.

LEGISLATION

Particulars of Statutory Instruments relating to Sea Fisheries made during the year are included in Appendix No. 22.

PART II

INLAND FISHERIES

Details of the catches of salmon, sea trout and eels in the various Fishery Districts during 1975 are given in Appendices Nos. 11 to 17 to this Report. As usual, the catches made in the Foyle Fisheries Commission area, formerly the Moville Fishery District, are not included but they are referred to in a separate section of this Report.

In 1975 the catch of salmon and grilse amounted to 681,797 fish weighing 2,188 metric tons and valued at £3,013,531, compared with 623,693 fish weighing 1,992 metric tons and valued at £2,332,708, for 1974. The overall average weight at 3.23 kgs. was slightly higher than in 1974. The commercial catch at 2,136 metric tons was also higher than the 1974 figure of 1,934 metric tons. The total rod catch amounted to 15,332 fish weighing 52,166 kgs. valued at £71,395 compared with the figures for 1974 when 16,308 fish weighing 58,500 kgs. and valued at £68,420 were caught. The total number of licences of all kinds for angling for salmon and sea trout was 13,286 compared with 12,951 in 1974. The salmon catch figures for nets and rods for the years 1973, 1974 and 1975 are given in Appendix No. 12. In 1975 the salmon and grilse catch (by weight) was distributed as follows:–

Drift nets	67.7%
Draft nets	24.2%
Stake nets, snap nets, weirs and other commercial methods	5.7%
Rod and Line	2.4%

The average weight and value of salmon caught by commercial fishing engines during the past four years are given in Appendix No. 11A. The figures show that, with the exception of loop nets which react unfavourably to dry and low water conditions, all other types of engine improved their catches in 1975. While the actual catch by drift nets increased marginally on the 1974 figure the catch as a percentage of the total showed a reduction of almost 5%. This was largely due to the calm weather conditions which generally prevailed during the 1975 fishing season. As a consequence, the catch by the draft nets increased considerably during the year.

Details of the catch of sea trout in 1975 in the various Fishery Districts are given in Appendix No. 13. The total catch amounted to 80,950 kgs. valued at £80,309. Very little commercial fishing specifically for sea trout is undertaken in this country and over 50% of the total catch is taken as a by-catch of commercial fishing for salmon. It is difficult therefore to compile accurate statistics. The catch of sea trout, as returned, was distributed by weight as follows:–

Rod and Line	44.6%
Draft, Drift Nets and other commercial engines	55.4%

The Dublin Wholesale Fish Market handled 151,595 salmon and grilse weighing 450,115 kgs. in 1975 compared with 169,946 fish weighing 629,500 kgs. in 1974. This market handled in 1975 about 22% of all the fish taken in the country, outside the Foyle area. The bulk of these fish (49.8%) were taken in the North Mayo drift nets.

BOARDS OF CONSERVATORS.—Details of receipts and expenditure of Boards of Conservators for the fishery year ended 30 September 1975 are given in Appendix No. 18. The Drogheda Board of Conservators was dissolved in January 1975 and an officer of the Department was appointed Administrator.

INLAND FISHERIES COMMISSION.—The Commission, which was set up in 1970, presented its report to the Minister for Agriculture and Fisheries on 2nd July 1975. The report was published in August. It is a comprehensive document containing far reaching recommendations on the reorganisation and development of inland fisheries. Comments on the report were invited from all sections of the public. The report and comments thereon were, by the end of 1975, being examined by the Fisheries Division and it is envisaged that steps will be taken during 1976 to implement such recommendations of the Commission as are found acceptable.

REGULATION OF SALMON NET FISHING.—A new bye-law was introduced in 1975 setting out maximum lengths for salmon drift nets. The maximum number of commercial licences that may be issued for salmon fishing remained at the level stipulated in the Control of Fishing for Salmon Order, 1974. This Order was amended to provide that the weekly close time for private fisheries should revert to that in force prior to the making of the Order.

EMPLOYMENT IN THE INDUSTRY.—Exclusive of persons employed on the marketing and transport of fish, a total of some 6,500 persons found either whole-time or part-time employment in inland fisheries during the year. This figure includes 4,550 persons estimated as engaged in netting for salmon, 400 employed by Boards of Conservators on protection of fisheries, 800 engaged in netting and protection work in the Foyle area, 155 engaged in development work on behalf of Inland Fisheries Trust Inc. and the remainder employed by proprietors of commercial and sport salmon fisheries or by angling associations.

INSTRUMENTS OF CAPTURE.—The total number of fishing licences of all kinds issued during the year was 15,565. Totals since 1970 were:—

1974	15,253
1973	14,212
1972	12,134
1971	12,975
1970	13,666

The numbers of the various types of licences issued in each fishery district during the year and the rates of licence duty are given in Appendices Nos. 19 and 20.

EXPORTS OF FRESHWATER FISH—Salmon:— The total quantity of salmon exported in fresh, chilled, frozen and smoked forms was 1,631

metric tons compared with 1,269 metric tons in 1974. Total value of these exports rose from £1,880,000 in 1974 to £3,119,500.

Details for the two years are as follows:

	1975		1974	
	Metric Tons	£'000	Metric Tons	£'000
Fresh, chilled, frozen salmon	1,564	2,865	1,227	1,736
Smoked salmon	67	254	42	144

Of the total quantity of fresh, chilled and frozen salmon exported in 1975, 1,060 metric tons went to Great Britain, 264 metric tons went to France, 103 metric tons to the Six Counties, 50 metric tons to Germany, 30 metric tons to the Netherlands, 29 metric tons to Spain and 21 metric tons to Belgium/Luxembourg.

The smoked salmon was exported mainly to Great Britain (14 metric tons), to Federal Republic of Germany (13 metric tons), Belgium/Luxembourg (12 metric tons), France (5 metric tons) and U.S.A. (5 metric tons).

The average export price of fresh, chilled or frozen salmon was £1,831 per metric ton as compared with £1,415 per metric ton in 1974.

Eighty-one licences to export salmon under the Agricultural and Fishery Products (Regulation of Export) Act, 1947 (Export of Salmon) Order 1954 (S.I. No. 275 of 1954) were issued during the year.

Rainbow trout: Exports of rainbow trout in 1975 amounted to 169 metric tons valued at £143,000 as compared with 180 metric tons valued at £145,000 in 1974.

Eels: Export of eels in 1975 amounted to 89 metric tons valued at £104,200 as compared with 109 metric tons valued at £127,000 in 1974.

EEL FISHING DEVELOPMENT.—As indicated in the paragraphs dealing with scientific and engineering research, work continued during the year on the investigation of eel stocks and eel fishing techniques. Advice and information on eel fishing was given to interested persons. Thirty-one eel fishery authorisations were issued during the year bringing the number of fishing engines operating under such authorisations to 44.

ARTIFICIAL PROPAGATION.—Details of salmon, sea trout and brown trout ova produced at the various hatcheries are given in Appendix No. 23.

The total output of salmon ova in the 1974/75 spawning season was 3,478,000. 278,000 ova/fry were distributed from the Department's hatchery at Glenties, Co. Donegal. 265,000 salmon ova were imported from the Bush Hatchery, Co. Antrim, to supplement home supplies.

Over two million brown trout ova were handled at Inland Fisheries Trust Hatcheries and production for the year also exceeded two million fish consisting of ova, fry, summerlings, fingerlings, spring yearlings, autumn yearlings and adult trout. 1,545,000 of this stock were released into trout waters being developed by the Trust and 387,000 were sold to angling clubs and other fishing interests. 100,000 rainbow trout ova were

handled by the Inland Fisheries Trust Hatcheries and production for the year was 56,000 consisting of fry, fingerlings, yearlings and adults. Of these 10,400 were stocked in Trust rainbow trout waters and 17,100 were sold.

RESEARCH AND DEVELOPMENT

Salmon.—The scientific research and development studies carried out by the Department during the year in regard to salmon came under the following categories:—

Stock abundance; composition and catch statistics
Migrations of both juvenile and adult salmon.
Egg and smolt production and salmon management.
Environmental and other considerations.

There was a marginally improved run of spring salmon in 1975 by comparison with 1974, but runs of spring fish are still very low compared with former years. Because of the very dry weather and low water conditions which prevailed in 1975, the escapement of grilse reaching the upper areas of most rivers was very poor. This was more in evidence in the north and north-west rivers than in those of the west and south. Because of the low water conditions, the total catch by rods was the lowest recorded in the past four years. Accurate and regular statistics form the basis of salmon fishery management particularly those related to catch composition, salmon migrations, fishing effort, escapement to spawning beds and smolt production. When the scale of these various activities is accurately documented the essential ingredients for management are compounded. The Fisheries Division is steadily improving its collection of this information with the help and co-operation of the industry.

From samples of commercial catches at various landing places data has been compiled of the size, age, condition and sex ratios of salmon. For example, a comparison was made between salmon caught by inshore seine nets in Kenmare River and those caught by drift nets off Castletownbere. This revealed a number of important factors. The salmon caught by the drift nets were in better condition and were larger than those caught by the seine nets. Mesh marks on the salmon caught in the seine nets showed that 40% were escapees from the drift nets.

The type of material used in Irish drift nets appears to have a high elasticity content which tends to damage the fish and reduce their value. Processors have reported loss of flesh in salmon caused by meshing.

Investigations into the sex ratios of grilse (1 + winter at sea) showed that females dominated to the extent varying from 54% to 77% with a mean of 68% for the whole country. An average ratio of 32% males to 68% females is most beneficial in the production of juvenile salmon.

In general, whilst catches of salmon in 1975 were the highest on record, the stock situation was far from ideal. Escapement of spawning stock has been good in some rivers, for example, the Shannon, Lee and Blackwater but poor in others such as the Owenea, Eriff and Moy. It is considered that if the high catching rate which has been maintained since 1972 is to continue, there must be a high level of recruitment and a substantial

return of adult fish from the sea. Whilst some rivers are showing a high rate of recruitment, others are not, and in fact there is reason for believing that the present high levels of production cannot be maintained indefinitely. During the past twenty years or so grilse have assumed the dominant role in Irish salmon stocks with spring fish continuing to show a substantial decline. However, in the River Slaney during April 1975 a substantial run of spring fish occurred. Spring salmon (2 + winters at sea) are individually more valuable than grilse but grilse (1 + winters at sea), because of the strength of the runs, make a greater overall contribution to the value of salmon production at present.

Spawning stocks in 1975 were well below average in most of the rivers of the North-West and West extending to the Corrib. The Shannon had an increased escapement of spawning salmon but an outbreak of UDN disease reduced considerably the number of spawners. There was a very reduced stock of spawning salmon in the Kerry and west Cork areas. In the South there was an adequate stock of spawning salmon in most rivers but by the end of the year this had been reduced considerably by outbreaks of UDN disease before many of the salmon had spawned. In the rivers of the East, including the Slaney, UDN disease was at a low level or completely absent so that most of these rivers held a good run of spawners. However, a number of tributary rivers in this area were understocked because of the abnormally low water conditions.

An annual record is kept of the runs of salmon coming to Irish coastal waters. Based upon 10-day analyses of salmon runs, the majority of grilse appeared on the South West and North West coasts during the period June 11 to 20, 1975. On the other hand, the runs on the South and East coasts generally reached their peak some 10 to 20 days later, suggesting an overall west to east movement. For example, the runs into the River Boyne reached their peak from July 15 to 20 and into the Rivers Slaney, Dee and Glyde from August 11 to 20.

Investigations into the origin and destination of salmon captured in the South West drift net fishery continued in 1975. Salmon caught by commercial fishermen were tagged and released in the area of the South West coast lying between 8° 00' W and 10° 10' W. A total of 315 salmon were tagged and released from June 10 to July 10, 1975. By the following December a recapture rate of 10% had been recorded. The majority of recaptures were made in a zone from the Munster Blackwater to the estuary of the River Shannon and it must be assumed from the specific recaptures that these two major rivers, together with those flowing into Kenmare River, contribute heavily to the catch of the South West drift net fishery. However, the fact that three of the salmon liberated in this area were recaptured outside Ireland (two from the West coast of Scotland and one from the River Lune in Lancashire, England) indicates that the drift net fishery off the South West coast of Ireland contains a percentage (up to 10% perhaps) of salmon not destined for Irish rivers.

The Irish salmon tagging programme continues to provide evidence that the fish exploited in Irish coastal waters are of mixed origin as well as mixed destination. For example, fourteen salmon which had been tagged as smolts in the United Kingdom were recaptured as adult salmon at various places around our coast. A number of salmon tagged as smolts in Danish, Norwegian and Swedish rivers, were also captured as adults in

Irish coastal waters. It was found that fish tagged as smolts in the River Bush, Co. Antrim, are making a substantial contribution to the drift net fishery off the north west coast of Co. Donegal. Seventeen salmon which had been tagged as smolts and three tagged kelts from the River Bush alone were captured in these waters. In addition the Cos. Mayo and Donegal drift net fisheries depend to some degree for their success upon smolt production in the River Foyle. In 1975, a large scale tagging of smolts was undertaken at the ESB stations on the Rivers Lee and Shannon. From previous tagging experiments on the River Lee, it has been shown that recaptured salmon tagged in that river make a contribution to catches in a number of Irish coastal fisheries, as well as to catches in the River Lee itself.

A total of 245 female kelts were tagged from the 1974/75 spawning season. These were all brood stock which had been used for hatchery purposes at various incubation and rearing stations. Their recapture rate as clean fish was 2% from the River Lee Station and less than 1% from other stations.

The improvements currently being developed in the techniques of hatchery rearing to the smolt stage indicate that the contribution which salmon smolts can make to the commercial fisheries is promising and will increase in importance as research in this field is improved.

A total of 93 females yielded an average of 3,400 ova per salmon at the Department's hatchery on the River Owenea, Co. Donegal. The mean length of this brood stock was 63 cm. (approximately 24") and they weighed 2.92 kg. (approximately 6½ lbs.) each. Fecundity studies, that is to say estimations of the number of viable eggs produced by salmon of various weights, are still in progress and a full report is being prepared. These studies are most important to an understanding of the productive potential of various rivers.

The Department continued to advise on the operation of the various salmon rearing stations run by Boards of Conservators, the Electricity Supply Board and the Salmon Research Trust. Due to inadequate water supplies in 1975, caused by the prolonged dry period, hatcheries operated by the Galway and Drogheda Boards of Conservators had a very poor year. White-spot disease, caused by a protozoan parasite (Ichtyiopterius sp.) which buries itself in the epidermis, decimated the entire juvenile stock in the Cong hatchery. The occurrence of this disease in hatcheries is accelerated by high water temperatures and high stock density. So severe was the outbreak that it did not abate when the fish were treated with a salt solution.

The Department's scientific staff also advised Boards of Conservators, private fishery owners and angling associations on the restocking of rivers and lakes. To this end a number of experiments were carried out prior to restocking, using eyed ova placed in artificially excavated redds. Preliminary results from this work showed that the method was successful and especially advantageous in areas where spawning facilities are non-existent, but where food supplies are sufficient to allow the areas to be used for nursery purposes. For example, in parts of the River Owenea a survival rate varying from 4% to 6% was obtained and this is quite high even for naturally spawned stock. From previous experiments of

survival rates in traditional spawning areas the experiments showed that artificial redds are at least as successful as stocking with unfed fry.

Advice was also given to the ESB and An Bord Iascaigh Mhara in regard to their experimental projects on the rearing of salmon in captivity. The most important research work requiring to be carried out in regard to this activity concerns the ideal diet for the economic production of market sized salmon. A survey of Our Lady's Lake in Co. Wexford was carried out with a view to assessing its potential for salmon rearing.

The increasing demands on water resources for agricultural, industrial and domestic uses has accelerated the rate of water abstraction. The biological implications of water abstraction and conversely of water impoundment schemes are being investigated. Fish stocks and invertebrate fauna were surveyed in Lough Guitane and the River Smearla, Co. Kerry, where major abstraction schemes are proposed. The proposed regulation of water flow from Lough Guitane by the Kerry County Council by impounding the outflowing streams, will subject the lake to fluctuating levels and this will have an effect upon the fish productivity of the area. A survey of the potential of this lake as a brown trout fishery and a salmon nursery area was undertaken in 1975. It was established that there is only a modest stock of brown trout in the lake as well as a small stock of salmon spawners. It will be necessary to determine how best to maintain and improve the present level of production.

Population analyses and preliminary estimates indicate that the River Smearla is an excellent nursery area for the River Feale. Juvenile salmon exceeded brown trout by a ratio of 25 to 10 and the density of juvenile salmon varied from 15 to 30 per 100 square metres which is very high for nursery areas generally in Ireland. This detailed study of the River Smearla will be used to establish base lines with which to determine policies for proper management arising from impoundment and abstraction schemes.

The annual population estimates of juvenile salmonids (salmon, sea trout and brown trout) in drained and undrained tributaries of the River Boyne were again made in 1975. Those tributaries which were drained in 1971 have shown a slow recovery rate and as yet there is little evidence of a normal salmon run establishing itself in these waters. There is evidence that spawning salmon are entering these drained tributaries but little evidence that they are spawning successfully there. However, in those tributaries which have been artificially stocked, the numbers of juvenile salmon are at satisfactory levels. The restocking of the River Boyne from Virginia hatchery was continued during 1975 with the advice of the scientific staff of the Fisheries Division.

Analyses were carried out of the stomach contents of salmon caught in both drift and draft nets. There was no evidence of feeding salmon in the draft net catches which are mainly taken in the estuarine parts of rivers. In the drift nets, however, 12.6% of all salmon examined in mid-June had sprat (on the North West coast) or sand eels (on the South West coast) in their stomachs. As the season progressed into July, the number of feeding salmon decreased.

Ulcerative Dermal Necrosis (UDN) continues to affect salmon and to a lesser extent sea trout and brown trout. The total number of diseased salmon recorded during 1975 was 6,511 representing 2.5% of the total

catch in the estuaries and freshwater portions of the rivers affected. UDN has not been observed in salmon caught at sea. It is estimated that a large percentage of the total stock of salmon in all Irish rivers contact UDN annually. Accurate statistics are difficult to compile. Salmon which die as a result of UDN are washed downstream and into the estuaries where it is impossible to observe them and obtain an accurate count. The worst affected rivers in 1975 were the River Erne (20% of all observations) the Drowes, Co. Sligo (16%), the River Lee (15%) and the River Bandon (10%). UDN has affected many Irish rivers since 1966 and been the cause of heavy mortality. However, it is as well to remember that it has been during the time of the continued presence of UDN that, paradoxically, salmon catches have reached their record high levels. The long term adverse effects of UDN may not be seen for a while yet.

Sea trout.—A preliminary survey of sea trout stocks was initiated in 1975. The results of this survey suggest that stocks are very unevenly distributed. Sea trout are a most significant fish for angling, but have a relatively low value in the commercial net fisheries. However, the increasing incidence of annual low water levels in summertime is preventing the larger sea trout from reaching freshwater and these are being caught in increasing numbers by the net fishermen. Many of the catchment areas which should contain sea trout do not do so and efforts are being made to introduce sea trout stocks into such areas. In this work, the most important study is that of measuring fecundity so that the best fish for artificial propogation may be selected. An early feeding experiment has been undertaken in Connemara and exploratory work on early fry feeding in an artificial stream in Co. Kerry is in hand. The existing sea trout stocks are being assessed from the scale collections which have been made. Catch data are being examined in order to recognise any factors in angling mortality and the relationship between escapement of successive generations and the maximum carrying capacity of sea trout fisheries.

The rod and line fishery for sea trout (excluding large sea trout) was less affected by the low water levels in 1975 because the smaller sized sea trout generally had sufficient water in which to be able to move upstream into freshwater.

Rainbow trout.—Due to the prolonged drought flows and high water temperatures from May to September 1975, the planned experimental work on selective breeding, conversion rates and automatic feeding had to be postponed.

There is a self sustaining population of rainbow trout in Lough Shure, on Arranmore Island, Co. Donegal. Some of these trout were taken during October 1975 and placed in the hatchery at Glenties, Co. Donegal, with a view to using them as a source of new breeding stock. These fish had only an average length of 7 cm. and will have to be retained and fed for at least another year before they will be capable of reproduction. It is important for successful rainbow trout farming to have reserve pools of genetically different, disease free stocks available. In spite of the very poor environmental conditions in 1975 output from rainbow trout farms did not drop as had been anticipated. The normal fish farm losses were experienced but yearling rainbow trout farmed very well. On the other hand rainbow trout fry, born in 1974, were badly affected and suffered big losses from chronic Infectious Pancreatic Necrosis (IPN) disease. This is expected to curtail severely sales of rainbow trout in 1976.

In 1975, two new rainbow trout farms commenced operations, one at Kilbride, Co. Wicklow and the other at Ramelton, Co. Donegal. These two farms should in due course add an output of 35 to 50 tons of marketable rainbow trout to the total production for the whole country which is currently at about 200 tons per annum.

An outbreak of kidney disease which took place at one rainbow trout farm was of such severity that the stock had to be destroyed. The cause of this outbreak has not been established but the situation at this farm will be monitored in 1976 with a view to preventing, if possible, any repetition of the outbreak.

Advice on the husbandry and economics of rainbow trout farming was given to existing and prospective farmers during 1975 which indicates an increasing interest and the likelihood of further expansion in the number of rearing units.

Eels.—The national survey of Irish eel stocks was completed in 1975. Surveys were undertaken in coastal lagoons, river estuaries and lakes, as well as in both lowland and highland rivers. This work included analyses of age, growth, feeding and density of yellow eel stocks. The stocks of eels in the country appear to be relatively low giving an annual output of about 100 tons. The systematic examination of the estuaries of rivers to assess their potential as sources of elvers (eels reaching land for the first time) was continued. When the most productive estuaries have been determined it is proposed that elvers will be transplanted into productive freshwater areas which are at present understocked. If successful, this programme should lead to considerable increases in the quantity of yellow eels for marketing.

A study of silver eels in the River Shannon was carried out. Some interesting data concerned with the distribution of male and female silver eels was assembled. Male eels were completely absent in the Shannon above Athlone but were plentiful from there to the estuary. It has been established, in general terms, that male silver eels never move very far upstream in any system but female eels on the other hand are widely distributed throughout the length of a river system. Male silver eels on the Shannon have a maximum length of 45 cm. and in contrast female silver eels rarely are smaller than 46 cm.

STUDENTSHIPS AND GRANT-AIDED RESEARCH PROJECTS.—The studentship to study the plankton of Lake Garadice and St. John's Lake was completed in November 1975 and the final report on this important study is being completed.

A studentship to study the pollen of Lough Neagh was inaugurated in October, 1975 and is being directed from the New University of Ulster at Coleraine, Co. Derry.

Research into fungus disease which attacks fish continued at the Botany Department of University College, Dublin with the aid of a Department grant. The study provided valuable information about the levels of malachite green which are fungistatic to *Saprolegnia parasitica* and related to fungi, under different conditions. A study was also made of the levels of malachite green which are fungicidal to the mycelium, spores and gemmae of *S. parasitica,* under different environmental conditions.

FISH DISEASE.–The Department's Veterinary Research Laboratory continued during 1975 to provide a disease control advice service for fish and make available its diagnositic facilities. During 1975 all fish farms, hatcheries and rearing stations were inspected by an officer from the Laboratory. Samples from the hatcheries and from many rivers and lakes were examined.

Research into UDN continued. Although salmonid epidermal cells have been successfully grown they become fibroblastic on subculture and this trend has not yet been overcome. The proposed cell line is an effort to isolate a possible UDN virus. An electron microscope has now been installed and it is hoped that this instrument will help considerably in this important research.

ENGINEERING

Arterial Drainage.–Work continued on the major arterial drainage schemes for the catchment of the River Boyne and the River Maigue. There were regular inspections of the works in progress and consultation took place with officers of the Office of Public Works to ensure that all practicable steps were taken in the course of the work carried out in each channel, or as soon as possible after its completion, to safeguard fishery interests in accordance with the proposals for this purpose drawn up by Fisheries Division prior to implementation of these Schemes. Once again effective use was made of an electric barrier to exclude spawning fish from the River Deel, a tributary of the Boyne where drainage works were in progress during the spawning season.

A proposal to undertake a major diversion of the existing river channel of one of our main rivers to permit the exploitation of a major ore body was investigated in detail and the likely impact on fishery interests was assessed and necessary remedial measures were recommended in the event of this project going ahead.

The Department's officers collaborated with the officers of the Office of Public Works in the preparation of designs for fish-pass structures to be incorporated in weirs to be built by the Office of Public Works in the River Maigue as part of the scheme for that river.

On the instructions of the Department, further improvements were carried out by the Office of Public Works to the salmon trapping installation at Blackcastle on the River Boyne.

An electric barrier to fish movement was provided at Blackcastle Weir by the installation of electrodes, which were subsequently energised, across the weir. The purpose of this electrical barrier to fish movement is to ensure that all fish approaching the weir are diverted to the fish-pass where the electronic fish counter has been installed to monitor fish movements. Certain shortcomings in this installation were brought to notice and were identified with a failure to extend the electrodes for the full width of the weir. This omission will be rectified when water conditions permit. The provision of this and other installations was undertaken by the Office of Public Works to compensate for interference with fishery interests caused by the drainage works on the Boyne.

The collection of data for the cost/benefit analysis of the proposed Mask/Carra Arterial Drainage Scheme which was initiated in 1974 and conducted in collaboration with the officers of the Inland Fisheries Trust was completed and all pre-drainage information relating to fishery interests was supplied to the Office of Public Works together with recommendations considered desirable for the preservation and maintenance of brown trout stock in the catchment during the actual drainage operations.

Regular contact was maintained between officers of the Department and engineers of the Office of Public Works based at Headford and Ballina in order to ensure that post-drainage maintenance work on the major arterial drainage schemes carried out in the West to date was carried out in such a manner as to minimise or avoid dangers to fish life in the affected rivers.

Electricity Generating Installations.—The various installations for the generation of electricity by water power and by steam were kept under observation in consultation with officers of the Electricity Supply Board and the effects of the operation of these installations on fish life monitored.

Arising from the decline in fish stocks in the River Erne as indicated by the drop in net catches, there were renewed suggestions about the inadequacy of the existing submerged orifice fish-passes at the hydro-electric dams on the River Erne. Consultations took place with local fishermen and other fishery interests following on which there was a joint inspection of the fish-pass structures but no firm conclusions could be reached arising out of this that would confirm the charges levelled against these installations. The matter is being investigated further. The electrical blocking installation utilising the energising unit developed for electrified nephrops trawl, to prevent fish entering the cooling water outlet of one of the major thermal power stations, continues to operate successfully.

Investigation of Fish Movements.—Salmon smolts migrating downstream in the River Corrib were caught in the trap at Galway and counted. The trapping season started on 16 April and ended on 27 May. In this period 51,050 smolts were trapped and released as compared with 75,100 in 1974; 78,000 in 1973 and 45,000 in 1972. Once again, due to late placement of the diversion screens, early running smolts escaped the counting installation. This also enabled kelts running downstream at this time to by-pass the trap. The maximum number of smolts taken from the trap in one day was 6,000 on 4 May and 27 April. In addition 12 eels and 3 perch were trapped in this installation.

Following many years' investigation and discussion of the matter, a design for the construction of a major fish counting installation at Sion Mills Weir on the River Mourne was designed by the Inspector and Engineer for the Foyle Fisheries Commission. The work commenced in the early Spring and was completed in November when the fish pass was opened in time to permit a late run of fish to ascend and be counted. This fish counting installation incorporates both a Denil fish-pass and an electronic fish counter as developed under the aegis of the Department. The work of construction was carried out by the Drainage Division of the Northern Ireland Ministry of Agriculture.

The Department's Consultant continued his research and development work on wide gap counting systems and on downstream migrant trapping

systems at the State salmon hatchery at Glenties, Co. Donegal. The wide gap resistivity counter designed for the ponding weir being build on the River Feale at Finuge for the North-East Kerry Regional Water Supply Scheme was in the course of installation during the year and was near completion at the year's end.

Arrangements were put in hand for the installation of an electronic fish counter at the new Denil fish-pass which was built during the year at Cork Waterworks Breakwater Weir.

It has not yet been possible to overcome some of the problems inherent in the design of the bio-electric salmon counter (code-named Delta Vee).

Fish culture installation. –Officers from Fisheries Division assisted the Bangor Board of Fishery Conservators in the operation of the salmon trapping and ova-incubation units at Glencullen near Corrowmore Lake, Co. Mayo.

The Galway Board of Fishery Conservators continued to operate the salmon hatchery and rearing station at Cong, Co. Mayo. Advantage was taken of the very low water levels and river flow resulting from the drought conditions obtaining in the summer months of this year to implement the plan drawn up for the sealing of the major seepage zones at the site from which the water supply for this rearing station is drawn off. The sealing of the seepage zone was accomplished by draping large sheets of synthetic impermeable lining across the upstream face of the porous area. On the basis of the information acquired in the preparatory detailed survey, these sheets were made up in sections and tailored to fit particular areas. In some cases they extended to a depth of 60 feet below water level. The preparatory work and the actual draping of the liners was tedious but with the use of divers, underwater television and radio telephone links the work was completed successfully with the co-operation of the staff of the Galway Board of Fishery Conservators.

The severe drought conditions already referred to resulted in a shortage of water at Virginia hatchery, Co. Cavan. In order to avoid the risk of mortality the fry stocks in the hatchery were transferred to the River Boyne system approximately three months earlier than the normal transfer time.

In pursuance of the arrangment whereby fishery engineering advice is provided to the Salmon Research Trust of Ireland Incorporated, a new smolt grid was designed in Fisheries Division for the smolt trap on the Mill Race and erected by the employees of the Salmon Research Trust.

A contract was placed for the construction of a new fish-fence on the Mill Race which had been designed by the Department and the execution of the work of installation of this fence was supervised by the officers of the Department. A new experimental brackish water rearing unit for salmon which had been built by the Salmon Research Trust was investigated and surveyed by Fisheries Division and certified for the payment of a grant by the EEC under the FEOGA Scheme. A new freshwater intake to serve this unit was designed by Fisheries Division for construction in the Spring of 1976.

A rock barrier at the outlet from Lough Feagh and located upstream from the Salmon Research Trust trapping installation at the "Leap", Furnace, Co. Mayo, was removed following representations by upstream landowners who feared that the barrier was causing flooding of their lands in the Shrahmore Valley. This work was carried out by a public works contractor in accordance with plans prepared by Fisheries Division and so designed as to ensure that the work of removal would not interfere with the working of the trapping installations while in progress. The execution of this contract was supervised by the Department's officers. Sites proposed for major fish farm construction were investigated on a number of rivers but principally the Slaney, Bride and Fushion and the sponsors advised on the possibilities. Designs for a number of fish farm units were prepared and other proposals submitted were examined and commented on.

A design was prepared for the expansion of the facilities available at Cong salmon hatchery, Co. Mayo, to provide also for the rearing of young salmon to the smolt stage should a decision be taken in future to proceed with such a project. The intention is that this smolt rearing unit, if built, will be located on the Island site which is adjacent to the existing hatchery premises.

Eel Fishery Development.—As in former years a number of eel fishery installations were investigated and the owners advised on necessary improvements.

In collaboration with the Electricity Supply Board, the Department's officers and the Department's Consultant mounted a major investigation under field conditions into the efficacy of an electrical guidance system developed by the Department as an aid to conventional fishing for eels by fyke nets at the major eel weir on the River Shannon at Killaloe, Co. Clare. Also included in this experiment were field trials of an electrical "foxing" arrangement designed to enhance the efficacy of the net systems in the capture of eels. These investigations will continue for a further two years at least.

The Inspector and Engineer, in his capacity as Chairman of the EIFAC ad hoc Working Group on Eel Fishery Development, organised the EIFAC Workshop Meeting on Age Determination of Eels which was held in Montpellier, France, during the Spring of 1975, arising out of which a report was prepared by him for issue by the European Inland Fisheries Advisory Commission. As a member of the Steering Committee set up jointly by ICES and EIFAC he also participated in the special meeting of this Committee held in Hamburg, Federal Republic of Germany, in January, 1975, to make the necessary arrangements for the Special Meeting on Eel Research and Management to be held in conjunction with the Ninth Session of EIFAC in Helsinki in 1976.

Application of Electricity to Inland Fisheries.—Research and development work on the application of electricity to inland fisheries was continued by the Department's Consultant at the field laboratory at the hatchery at Glenties in association with the Department's engineers.

Reference has already been made to the successful operation of the electric barrier at the mouth of the River Deel, a tributary of the River Boyne, to exclude spawning salmon from this river while undergoing

drainage operations. Mention has also been made of the installation of an electrical fish barrier to fish movement at Blackcastle Weir on the River Boyne to direct the salmon through the fish counter. The setting up of an experimental eel guiding unit at the Electricity Supply Board's eel weir at Killaloe on the River Shannon has also been referred to. Due to delays in the completion of the mounting of the installation, limited experimental work only was possible this year. Certain difficulties were experienced in the field trials and solutions to the problems raised are at present being worked out.

River Improvement Schemes.—A Denil-type fish-pass to the design of the Department was constructed at Cork Waterworks breakwater during the year under the supervision of the Department's engineers. A novel construction method, dictated by the site conditions, was employed in the building of this fish-pass. When the weir was opened up for the construction of the fish-pass it was found that the structure of the weir was so porous that it was not practicable to staunch the water flow and accordingly the major part of the fish-pass structure was pre-cast in reinforced concrete on the river bank and lowered by crane into its final resting place which had been prepared to receive it.

The major fish passage facility provided on the River Feale, Co. Kerry, between Finuge Bridge and the water abstraction ponding weir, operated very successfully and its value was demonstrated in the drought conditions which obtained during the year. This facility was provided by the Kerry County Council to the design of the Department as part of the North-east Kerry Regional Water Supply Scheme and was made essential by the proposal to abstract a very substantial amount of water which would significantly reduce the flow of the river at times of low flow.

In accordance with the requirements of the Department, work continued on the improvement of holding ponds and angling facilities on stretches of the Glengariff River owned by the Forestry Division of the Department of Lands.

There were consultations with representatives of Bord Failte about the improvements of angling facilities on the River Roughty.

The Department advised on improvement works on the Rivers Bandon and Argideen which were carried out by local angling clubs.

The survey of spawning activity on the River Feale was repeated in 1975 as part of the investigations which had been initiated with a view to the rehabilitation of this spring fish river.

Polluting Effluents.—Proposals for the treatment and discharge of effluents from existing and projected undertakings, particularly where financial support from the State was involved, were examined and commented on in the light of their likely impact on fishery interests. The number of such cases remained at a high level.

During the year certain proposals for the control of the operation of sand and gravel washing plants throughout the country to minimise the impact on fishery operations were devised and are being studied further.

Proposals for the treatment of effluent from a major mining concern were investigated and commented on as regards the safeguarding of fishery

interests with particular reference to the installation of a diffuser arrangement to ensure the adequate dispersion and mixture of the effluent with the receiving waters. One of the Department's fishery engineers visited the Laboratory of the British Hydraulic Research Association at Cranfield, Bedfordshire, England, to review experiments carried out there on which the design of the proposed effluent discharge pipeline had been based and discussed these with the researchers and the sponsors of the project.

Water Abstraction.—Major water abstraction schemes continued to pose problems to inland fisheries conservation and management. Particular schemes investigated during the year with reference to provision of necessary fish-pass facilities to protect the migratory movements of fish were those proposing to abstract water from Lough Boliska and Glennicmurrin Lake in Co. Galway.

Proposals for the abstraction of water from Lough Guitane and from the Inniscarra hydro-electric reservoir on the River Lee were investigated and this study is continuing.

A proposal to abstract water from the River Slaney was also investigated.

Bye-Laws, Licences, Definitions.—Maps were prepared in connection with various bye-laws, orders and licences and other statutory instruments and specialist advice was supplied to various Boards of Conservators on a wide range of problems including pollution, fish passes, marking of half-mile limits and fishery protection work.

FOYLE FISHERIES COMMISSION

The Commission is comprised of two members nominated by the Minister and two members nominated by the Department of Agriculture for Northern Ireland. The post of Chairman rotates each year between the senior members of the Commission. During the year under review it was held by the Belfast member. The Annual Report of the Commission for 1975 gives detailed information on the Commission's activities during the year.

The spawning count for 1975 was 2,696 which is a decrease on the figure of 3,268 recorded in 1974.

Catch returns for 1975 show a reduction on those recorded for 1974. The catch of salmon and grilse by commercial engines in 1975 was 54,904 as compared with 78,051 in 1974. The rod catch of salmon, grilse and sea trout in 1975 was 7,396 as compared with 10,788 in 1974.

The commercial fishery operated directly by the Commission yielded a profit of £16,729 in 1975 which is a considerable increase on the 1974 profit of £6,104. This profit is credited to the General Account of the Commission. The Commission received during the year under review equal contributions totalling £43,462 from the Department of Agriculture and Fisheries and the Northern Ireland Department of Agriculture to meet its deficit at 30 September 1974. The net deficits of the Commission at 30 September 1975 amounted to £76,090.

The Accounts for the year ended 30 September 1975 and particulars of Regulations made by the Commission during 1975 are included as appendices to its Annual Report.

Following an Appeal to the High Court by two County Donegal fishermen against convictions obtained in the District Court in respect of offences under Foyle Area Regulations, the judgement given in November 1975 was to the effect that the Foyle Area (Control of Netting) Regulations, 1966 were not validly made. To rectify the position amending legislation was enacted in April 1976.

INLAND FISHERIES TRUST INCORPORATED

The Council of the Trust consists of seven members, three being elected and four being nominated by the Minister. In 1975 the nominated members from the Department's staff were the Inspector and Engineer, who is the present Chairman of the Council, and an Assistant Principal Officer.

The Annual Report of the Trust for 1975 gives a review of its work during the year. The grant-in-aid paid to the Trust by the Department in that year amounted to £430,000.

Work continued during the year on the development, improvement, and maintenance of trout fisheries on rivers and lakes. 1,545,000 brown trout consisting of fry, summerlings, fingerlings, yearlings and adults were released into waters to supplement natural spawning. Further work was carried out on spawning and nursery grounds to improve natural spawning. In controlling predators over 20 tons of pike and 41 tons of perch were removed from Trust lakes and rivers. Surveys were made of new waters to assess their suitability for development as trout or coarse fisheries. Numerous additional facilities were provided for coarse anglers on the River Erne, Lough Gowna and Ardee Lake.

The Trust was active in promoting sea angling in 1975. Investigations were continued into the location, movements, growth and habits of marine sport fish off the South and South West coast and in the Shannon, Moy, Illen and Munster Blackwater estuaries.

The Trust continued to identify and remedy the causes of pollution in waters under its control and in an effort to protect Trust lakes prosecutions were instituted at its instigation against persons on whose premises sources of serious pollution were detected.

THE SALMON RESEARCH TRUST OF IRELAND INCORPORATED

The Committee of Management of the Trust consists of seven members, two of whom are nominated by the Minister, three being nominated by the Chairman of Arthur Guinness, Son and Co. Ltd., plus two elected members. The members nominated by the Minister in 1975 were an Assistant Secretary and the Inspector and Scientific Adviser of the Department.

The Annual Report of the Trust for 1975 gives a detailed account of its work during the year. The grant-in-aid paid to the Trust by the Department in the 1975 financial year amounted to £8,000.

The results of census work by the Trust at their Burrishoole Fishery, Co. Mayo, in regard to upstream and downstream movement of salmon

indicated that there was an improvement in the total count of 2 + winter fish in 1975. The small spring fish total remained at much the same level as in 1974.

The grilse total of 824 was similar to that of 1974. The survival rate from the smolt stage to grilse increased slightly to 9.2%. Estimates of survival from ova deposition to the smolt stage indicated that the 1971 brood year-class was more successful than its predecessor.

8,087 2 year old smolts were released in 1974 and the survival rate of these smolts to the grilse stage was just over 4%, representing a satisfactory improvement on returns from reared smolts in the past two years. The 1 year-old smolt survival was poor, however; this was thought to be due to their having been branded and released directly to sea without any equilibration period in release ponds.

A total of 15,674 smolts were released to sea in 1975. Fungus infection was at a low level among the 2+ fish prior to smolt transformation while "Summer disease" caused approximately 20% losses among the yearling parr from April to June.

The sea trout run at 3,348 further increased and was the highest recorded run since complete counts began in 1969. Returns from tagged grilse kelts at 7% was similar to the poor level of the previous year but the returns from tagged sea trout kelts were exceptionally good at 46.4%. The incidence of UDN disease among salmon kelts showed a further decline, with an encouraging number of male fish surviving to the healthy kelt stage. Fungus infection of sea trout kelts decreased in 1974/75 but was present at about the same level among the early kelts of the 1975/76 season.

Appendices to the Trust's report deal with:–

(i) Stock production, survival rates and life-history of sea trout.
(ii) An assessment of the value of heated water during incubation and early rearing.
(iii) Experimental work on brackish-water and sea-cage rearing of salmonids.

MANAGEMENT OF STATE FISHERIES

131 State owned fisheries–in the main vested in the Land Commission–were managed by Fisheries Division in 1975. Rents received during the year amounted to £4,180 compared with £4,471 in 1974.

Ten of these fisheries which fell due for re-letting were advertised during the year.

REPRESENTATION BY THE DIVISION AT CONFERENCES, STUDY GROUPS ETC.

During the year, Inland Fisheries Division was represented at the following conferences, study groups etc:–

Abroad (1) Underwater Association Scientific Group, Bangor, North Wales.

(2) Coarse Fish Conference, Liverpool.
(3) Institute of Fisheries Management, London.
(4) Study tour of salmon fisheries in Iceland.
(5) Study tour of the salmon fisheries of New Brunswick, Canada.
(6) International Council for the Exploration of the Sea.
(7) Salmon Research Group meeting, London.
(8) Fish Counters Liaison Group, Reading, England.

Home

(1) The Technical Project Committee of the Kerry County Council.
(2) Pollution Control Committee of the Donegal County Council.
(3) River Erne Joint Protection Committee.
(4) Water Resources Advisory Committee of An Foras Forbartha.
(5) National Science Council Environmental Panel (including Sub-group on Water Resources).
(6) Committee of Management of the Salmon Research Trust.
(7) Inter-Departmental Committee on Pollution.
(8) Irish Specimen Fish Committee.
(9) Irish Research Group concerned with freshwater fishes.
(10) Irish Fish Disease Committee.
(11) UNESCO Hydrological Decade National Committee for Ireland.
(12) Committee concerned with the replacement of the "ASGARD".
(13) Water Pollution Advisory Council.
(14) Conference on Water Pollution Control held jointly by the Institute for Industrial Research and Standards and the Institute for Chemistry in Ireland.

LEGISLATION

Particulars of Statutory Instruments relating to inland fisheries made during the year are included in Appendix No. 22.

PATRICK S. DONEGAN,
Minister for Fisheries.

30 June, 1977.

APPENDIX No. 1

Quantity and Value of Sea Fish (excluding Salmon) returned as landed in 1974 and 1975.

Kinds of Fish	QUANTITY		VALUE	
	1975	1974	1975	1974
	Metric tons	Metric tons	£000	£000
Soles	151	165	181	166
Brill	95	92	45	38
Turbot	99	99	50	44
Plaice	1,478	1,356	407	336
Dabs	188	223	21	18
Megrims	180	165	20	16
Other Flat Fish ...	371	308	31	28
Ray/Skate	1,530	1,505	307	288
Cod	4,314	3,765	746	663
Haddock	1,020	2,411	184	268
Hake	110	95	19	14
Whiting	7,475	7,369	669	513
Pollack	1,176	909	139	88
Other Round Fish ...	1,784	1,075	62	47
Total Demersal ...	19,971	19,537	2,881	2,527
Herrings	28,808	39,608	3,227	3,950
Pilchard	99	52	4	1
Mackerel	13,354	8,525	584	365
Sprats	3,598	7,314	60	139
Total Pelagic	45,859	55,499	3,875	4,455
TOTAL WET FISH ...	65,830	75,036	6,756	6,982
Lobsters	331	253	842	586
Crawfish	85	74	275	234
Crabs	645	901	72	88
Dublin Bay Prawns ...	994	1,380	237	289
Escallops	341	206	101	50
Queen Escallops ...	12	26	1	2
Oysters	498	289	248	81
Mussels	3,651	3,465	75	56
Periwinkles	2,995	2,797	352	301
Other Shellfish... ...	436	279	172	67
Total Shellfish	9,988	9,670	2,375	1,754
TOTAL ALL FISH ...	75,818	84,706	9,131	8,736

Landings into Foreign Ports by Irish registered vessels in 1975 were as follows:
Volume Caught: 7,131 metric tons. Amount Realised: £1,140,000*

*includes £968,500 received for 4,490 metric tons of fresh, chilled or frozen fish processed at sea.

APPENDIX No. 2

Comparison of the Average Price per metric ton of Various kinds of Sea Fish for the years 1968-1975

	1968	1969	1970	1971	1972	1973	1974	1975
	£	£	£	£	£	£	£	£
Soles ...	431	451	509	529	624	931	1,006	1,200
Brill ...	192	192	221	240	277	354	411	477
Turbot ...	197	197	211	228	275	358	444	510
Plaice ...	142	156	184	184	192	217	247	276
Dabs ...	49	57	69	71	68	93	81	114
Megrims ...	56	62	77	66	62	95	94	114
Ray/Skate ...	86	90	111	121	138	161	191	200
Cod ...	66	86	97	98	116	139	176	173
Haddock ...	71	70	74	53	63	96	111	181
Hake ...	137	137	126	130	125	141	150	176
Whiting ...	37	43	50	40	49	68	70	90
Pollack ...	47	46	53	61	64	82	97	118
Herrings ...	22	23	28	37	44	72	100	112
Pilchards ...	13				11	36	23	42
Mackerel ...	22	28	38	38	32	46	43	44
Sprats ...	8	9	12	11	11	17	19	17

N.B.—"Average Price" as shown in this table represents total value divided by total weight for each kind of fish, year by year. It does not purport to take direct cognizance of any abnormal rise or fall in price attributable to a seasonal glut or shortage of a particular kind of fish.

APPENDIX No. 3

Value of landings of sea fish (excluding salmon) at ports at which the value of such landings exceeded £35,000 in 1975.

Ports	Total Value	Demersal	Pelagic	Shellfish
1. Killybegs ...	1,432,494	500,749	904,648	27,097
2. Howth ...	737,195	461,257	240,607	35,331
3. Dunmore East ...	717,389	42,343	659,332	15,714
4. Galway ...	661,990	305,285	313,791	42,914
5. Cobh ...	562,618	24,676	523,677	12,265
6. Castletownbere ...	489,355	121,429	333,991	33,935
7. Burtonport ...	473,685	91,431	337,333	44,921
8. Kilmore Quay ...	284,556	195,045	2,320	87,191
9. Skerries ...	277,243	147,487	5,800	123,956
10. Dingle ...	270,485	131,225	76,276	62,984
11. Fenit ...	267,545	2,072	300	265,173
12. Greencastle ...	227,826	195,457	–	32,369
13. Valentia ...	175,874	52,885	58,079	64,910
14. Clogherhead ...	133,392	86,640	18,783	27,969
15. Dun Laoire ...	130,164	115,265	2,424	12,475
16. Bantry ...	107,814	11,162	66,050	30,602
17. Mornington ...	84,740	4,893	68,133	11,714
18. Schull ...	84,588	40,031	11,857	32,700
19. Rosmore/Roscahill ...	84,115	–	–	84,115
20. Clarinbridge ...	79,958	–	–	79,958
21. Helvick ...	65,804	40,628	400	24,776
22. Achill ...	64,923	38,903	7,474	18,546
23. Duncannon ...	51,929	31,737	7,374	12,818
24. Castlegregory ...	50,950	–	300	50,650
25. Arklow ...	49,648	46,294	3,354	–
26. Balbriggan ...	45,195	29,355	35	15,805
27. Union Hall ...	44,523	28,403	1,380	14,740
28. Baltimore ...	44,156	12	–	44,144
29. Inishowen/Moville ...	40,055	–	–	40,055
30. Wexford ...	36,363	7,284	1,050	28,029

APPENDIX No. 4

Imports and Exports of Fish and Fish Preparations in 1975 (as compared with 1974)

	Quantity		Value	
	1975	1974	1975	1974
	metric tons	metric tons	£'000	£'000
I.–Imports:				
Fish, fresh chilled or frozen	1,923	1,453	405	261
Fish, salted, dried or smoked	1,551	1,569	715	685
Shellfish, fresh, salted or dried ...	487	204	435	271
Prepared or preserved fish ...	2,813	2,313	2,618	2,052
Prepared or preserved shellfish ...	34	52	58	79
TOTALS	6,808	5,591	4,231	3,348
II.–Exports:				
Fish, fresh, chilled or frozen	18,515*	24,816	7,053*	6,858
Fish, salted, dried or smoked	8,754	12,609	2,159	2,264
Shellfish, fresh, salted or dried ...	6,131*	5,610	3,160*	2,336
Fish and shellfish prepared or preserved (including tinned) ...	3,278	2,705	1,266	843
TOTALS	36,678	45,740	13,638	12,301

*A further 2,051 metric tons of fish valued at £330,000 and 3,545 metric tons of shellfish valued at £810,000 was either landed directly into foreign ports or transhipped at sea for export, in fresh, chilled or frozen forms, by Irish registered vessels.

APPENDIX No. 5

HERRING FISHING 1975

Ports at which more than 1,000 metric tons were landed	Total Quantity	Value
	Metric tons	£'000
1) Killybegs	8,059	803
2) Dunmore East	5,301	659
3) Cobh	3,363	525
4) Galway	2,807	283
5) Burtonport	2,634	285
6) Howth	2,247	236

APPENDIX No. 6

MACKEREL FISHING 1975

Ports at which more than 100 metric tons were landed	Total Quantity	Value
	Metric tons	£'000
1) Killybegs	4,923	95
2) Castletownbere	3,152	197
3) Burtonport	1,216	52
4) Valentia	550	30
5) Dingle	508	29
6) Galway	479	27
7) Schull	281	11
8) Howth	117	4

APPENDIX No. 7

REGIONAL DISTRIBUTION AND CLASSIFICATION OF FISHING CRAFT AND OF PERSONNEL ENGAGED IN FISHING IN 1975

Coast	How Engaged	Men	Total Vessels	Motor Vessels						Boats propelled by outboard engines, sails or oars	
				Gross Tons						18' Keel and upwards	Less than 18' Keel
				Over 75	51-75	26-50	16-25	11-15	10 and under		
East (Omeath to Carnsore Point)	Solely	581	184	12	34	57	8	–	33	38	2
	Partially	337	115	–	–	–	–	–	18	74	23
	Laid-up	–	17	2	3	9	2	–	1	–	–
	Totals	918	316	14	37	66	10	–	52	112	25
South (Carnsore Point to Loop Head)	Solely	895	385	22	37	31	15	19	195	66	–
	Partially	956	314	–	–	–	–	–	31	210	73
	Laid-up	–	10	2	1	6	1	–	–	–	–
	Totals	1,851	709	24	38	37	16	19	226	276	73
West (Loop Head to Erris Head)	Solely	232	93	2	7	20	3	5	28	28	–
	Partially	1,305	485	–	–	–	–	–	129	236	120
	Laid-up	–	–	–	–	–	–	–	–	–	–
	Totals	1,537	578	2	7	20	3	5	157	264	120
North (Erris Head to Moville)	Solely	566	99	18	24	45	6	2	4	–	–
	Partially	1,758	637	–	–	1	3	3	286	282	62
	Laid-up	–	7	1	–	6	–	–	–	–	–
	Totals	2,324	743	19	24	52	9	5	290	282	62
Totals (All Coasts)	Solely	2,274	761	54	102	153	32	26	260	132	2
	Partially	4,356	1,551	–	–	1	3	3	464	802	278
	Laid-up	–	34	5	4	21	3	–	1	–	–
	Totals	6,630	2,346	59	106	175	38	29	725	934	280

APPENDIX No. 8

TRAWLING AND SEINING 1975

Port or Locality	Number of men engaged	Number of vessels engaged	Tonnage of Motor Vessels			Fishing Period
			Not exceeding 10 tons	Over 10 tons	Over 25 tons	
Clogherhead ...	44	11	–	1	10	All year
Balbriggan ...	32	8	–	2	6	All year
Skerries ...	110	22	–	–	22	All year
Howth ...	202	41	–	–	41	All year
Dun Laoire ...	35	7	–	–	7	All year
Wicklow ...	4	2	–	–	2	All year
Arklow ...	52	13	–	–	13	All year
Courtown ...	6	3	3	–	–	Summer
Wexford ...	4	1	–	–	1	All year
Rosslare ...	4	1	–	–	1	All year
Carne/St. Helens' ...	2	1	1	–	–	Summer
Kilmore Quay ...	93	19	–	–	19	All year
Duncannon ...	20	6	2	–	4	All year
Dunmore East ...	52	10	–	–	10	All year
Helvick ...	17	4	–	–	4	All year
Youghal ...	15	6	5	–	1	Autumn and Winter
Ballycotton ...	10	5	5	–	–	Spring and Autumn
Cobh ...	8	4	2	2	–	All year
Cork ...	10	1	–	–	1	All year
Kinsale ...	11	3	–	1	2	All year
Union Hall ...	15	4	–	1	3	All year
Baltimore ...	8	1	–	–	1	All year
Schull ...	30	5	–	–	5	All year
Cape Clear ...	5	1	–	–	1	All year
Castletownbere ...	80	12	–	–	12	All year
Ballinskelligs ...	5	1	–	–	1	All year
Valentia ...	5	1	–	–	1	All year
Portmagee ...	14	3	–	–	3	All year
Cahirciveen ...	18	3	–	–	3	All year
Dingle ...	97	15	–	–	15	All year
Carrigaholt ...	3	1	–	1	–	Spring
Seafield/Quilty ...	3	1	–	1	–	Spring
Aran Islands ...	83	15	–	–	15	All year
Galway ...	38	7	–	–	7	All year
Rossaveal ...	9	2	–	–	2	All year
Mulrany/Achill ...	24	5	–	1	4	All year
Belmullet/Blacksod	10	2	–	–	2	All year
Killala ...	8	2	–	–	2	All year
Sligo ...	6	1	–	–	1	All year
Killybegs ...	247	39	–	1	38	All year
Burtonport ...	128	24	–	2	22	All year
Bunbeg ...	9	2	–	1	1	Spring and Autumn
Buncrana ...	8	2	–	2	–	Autumn
Greencastle ...	138	24	–	–	24	All year
Mageraroarty ...	4	1	1	–	–	Autumn
Totals	1,726	342	19	16	307	

APPENDIX No. 9A.

- STATEMENT OF ACCOUNT IN RESPECT OF REPAYABLE ADVANCES

Advances of £10,678,563 made to An Bord Iascaigh Mhara during the period of twenty-four years to 31 December, 1975 for provision of boats and gear and other purposes:—

Repayments of Principal:		£
made to 31 December 1974	...	1,076,841
made during year	...	129,437
Principal written off to 31 December 1975	...	1,088,876
		2,295,154
Balance of Principal outstanding at 31 December 1975	...	8,383,409

APPENDIX No. 9B.

EXPENDITURE ON FISHERIES FOR THE YEAR 1 APRIL 1974 TO 31 DECEMBER 1974 AND FOR THE YEAR ENDED 31 DECEMBER 1975

(all figures rounded to nearest £1,000)

	1 April 1974 to 31 Dec. 1974	1 Jan. 1975 to 31 Dec. 1975
	£	£
I. SEA FISHERIES		
By (a) Department of Agriculture and Fisheries (Fisheries Division)		
(i) Development	49,000	94,000
(ii) Fishery School	21,000	17,000
(iii) Fishery Harbours and other Marine Works	555,000	697,000
(b) An Bord Iascaigh Mhara		
(i) Administration and Current Development (grant-in-aid)	670,000	1,020,000
(ii) Capital Development (grant-in-aid) ...	848,000	1,570,000
(iii) Repayable Advances* (mainly for boats and gear)	1,348,000	2,700,000
(iv) Repayment of Advances written off ...	70,000	95,000
(c) Roinn na Gaeltachta Grants for marine works	377,000	299,000
2. INLAND FISHERIES		
By (a) Department of Agriculture and Fisheries (Fisheries Division) Development	269,000	392,000
(b) The Inland Fisheries Trust Incorporated (grant-in-aid)	380,000	430,000
(c) The Salmon Research Trust of Ireland Incorporated (grant-in-aid)	3,000	9,000
3. DEPARTMENT OF AGRICULTURE AND FISHERIES		
Salaries, Wages and other administrative Expenses for Fisheries Division	251,000	460,000
Totals	4,841,000	7,783,000

*A Statement of Account in respect of Repayable Advances is given in Appendix 9A.

APPENDIX No. 10

COASTAL EXTENT OF FISHERY DISTRICTS AND NAMES OF THE PRINCIPAL RIVERS IN EACH DISTRICT

District	Coastal Extent of District	Principal Rivers
No. 1 Dublin	Most easterly point on Red Island, Skerries, to Wicklow Head.	Liffey Vartry.
No. 2 Wexford	Wicklow Head to Kiln Bay, east of Bannow Bay, Co. Wexford.	Slaney Avoca.
No. 3 Waterford	Kiln Bay, east of Bannow Bay, to Helvick Head, Co. Waterford.	Suir Barrow Nore.
No. 4 Lismore	Helvick Head to Ballycotton Pier, Co. Cork.	Blackwater, Funcheon, Bride, Awbeg.
No. 5 Cork	Ballycotton Pier to Crow Head, Co. Cork.	Lee, Owenboy, Bandon, Argideen, Ilen, Mealagh, Owvane, Coomhola, Glengariff, Adrigole.
No. 7 Kerry	Crow Head, Co. Cork, to Kerry Head, Co. Kerry.	Roughty, Sheen, Finnihy, Blackwater, Sneem, Laune, Flesk, Maine, Caragh, Currane, Cummeragh, Inny.
No. 8 Limerick	Kerry Head, Co. Kerry, to Hag's Head, Co. Clare.	Shannon, Deel, Fergus, Mulcair, Little and Upper Brosna, Inny, Maigue, Feale.
No. 9[1] Galway	Hag's Head to the sea point of the boundary between the townlands of Keeraunagark South and Banraghbaun South, Co. Galway.	Corrib, Claregalway.
No. 9[2] Connemara	The sea point of the boundary between the townlands of Keeraunagark South and Banraghbaun South, Co. Galway, to Slyne Head, Co. Galway.	Ballinahinch, Recess, Cashla, Owengowla, Invermore, Inverbeg, Screebe, Furnace.
No. 10[1] Ballinakill	Slyne Head to Pigeon Point, Westport Bay, Co. Mayo.	Culfin, Errif, Bundorragha, Dawros, Carrowniskey, Bunowen (Louisburgh).
No. 10[2] Bangor	Pigeon Point to Benwee Head, Co. Mayo.	Newport, Burrishoole, Owenduff, Owengarve, Owenmore, Glenamoy.
No. 11 Ballina	Benwee Head to Coonamore Point, Co. Sligo.	Moy, Cloonaghmore (Palmerston), Easkey.
No. 12 Sligo	Coonamore Point to Carrickgarve, Co. Sligo.	Ballisodare, Garavogue (Sligo), Bonet, Drumcliffe.

District	Coastal Extent of District	Principal Rivers
No. 13 Ballyshannon	Carrickgarve to Rossan Point, Co. Donegal.	Erne, Bundrowes, Bunduff, Eske, Eaney Water, Oily, Glen.
No. 14[1] Letterkenny	Rossan Point to Malin Head, Co. Donegal.	Owenea, Gweebara, Gweedore (Crolly), Clady, Lackagh, Lennon, Crana.
No. 17[2] Dundalk	Carlingford Lough to Clogherhead, Co. Louth.	Fane, Dee, Glyde.
No. 17[1] Drogheda	Clogherhead to the most easterly point on Red Island, Skerries, Co. Dublin.	Boyne, Blackwater, Deel.

Note–The area comprised in the former No. 14[2] or Moville District was, by the Foyle Fisheries Act, 1952, incorporated in the Foyle Area which is administered by the Foyle Fisheries commission.

APPENDIX No. 11

Quantity and Value of all Salmon and Sea Trout taken in 1973, 1974 and 1975 by Instruments of Capture.

SALMON

	1975	1974	1973	1975	1974	1973
Instruments	**Kgs**	**Kgs**	**Kgs**	**£**	**£**	**£**
Total for all engines	2,188,305	1,992,277	1,812,189	3,013,531	2,332,708	2,297,236
Total for rod and line	52,166	58,529	93,625	71,395	68,420	118,685
Total for drift nets	1,482,258	1,440,306	1,191,025	2,048,368	1,685,993	1,509,812
Total for draft nets	530,288	390,677	414,063	724,833	457,894	524,890
Total for stake nets, weirs, etc.	123,593	102,765	113,476	168,935	120,401	143,849

SEA TROUT

	1975	1974	1973	1975	1974	1973
Instruments	**Kgs**	**Kgs**	**Kgs**	**£**	**£**	**£**
Total for all engines	80,950	77,187	33,246	80,309	68,066	35,180
Total for rod and line	36,072	41,602	16,152	35,786	36,686	17,091
Total for drift nets	9,110	7,804	6,641	9,038	6,882	7,028
Total for draft nets	34,646	27,226	10,453	34,372	24,009	11,061
Total for stake nets, weirs, etc.	1,122	555	–	1,113	489	–

APPENDIX No. 11A

Average Weight and Value of Salmon Catch per Commercial Fishing Engine, 1975

Fishing Engine	Drift net		Draft net		Bag Net etc.		Loop Net		Snap Net	
Year	Kgs.	£	Kgs.	£	Kgs.	£	Kgs.	£	Kgs.	£
1972	909.46	1,177	553.84	720	1,577.60	2,034	70.31	92	305.27	393
1973	1,080.91	1,538	537.06	692	1,473.73	1,894	47.18	59	278.51	372
1974	1,342.64	1,567	570.62	670	1,433.81	1,675	60.33	70	260.37	304
1975	1,405.80	1,958	724.50	998	1,567.35	2,159	13.50	18	397.35	547

APPENDIX No. 12

Quantity and Value of Salmon taken in 1973, 1974 and 1975 by Fishery Districts

Fishery District	*	Quantity			Value		
		1975 kgs.	1974 kgs.	1973 kgs.	1975 £	1974 £	1973 £
Dublin ...	R	217	208	1,054	296	248	1,336
	N	879	2,330	1,709	1,201	2,765	2,166
Wexford ...	R	1,628	1,307	2,083	2,225	1,556	2,641
	N	11,692	5,778	7,287	15,981	6,751	9,237
Waterford ...	R	3,929	11,129	11,590	5,370	13,004	14,692
	N	279,893	169,351	257,934	382,577	197,879	326,973
Lismore ...	R	4,775	3,631	2,378	6,527	4,242	3,015
	N	173,342	116,698	117,464	236,935	140,525	148,904
Cork ...	R	2,825	4,633	3,052	3,861	5,413	3,869
	N	327,043	186,639	160,191	447,023	218,078	203,067
Kerry ...	R	4,174	4,638	9,006	5,706	5,420	11,416
	N	96,991	59,854	79,439	132,573	70,154	100,702
Limerick ...	R	9,262	7,884	15,991	12,660	9,212	20,271
	N	190,193	162,778	199,581	259,968	190,198	253,000
Galway ...	R	4,185	1,241	3,005	5,720	1,450	3,809
	N	118,105	36,139	44,544	161,435	42,226	56,467
Connemara ...	R	2,753	2,547	1,935	3,763	2,976	2,454
	N	14,783	11,450	13,214	20,207	13,378	16,751
Ballinakill ...	R	1,362	2,109	3,699	1,951	2,464	4,689
	N	17,159	8,777	18,059	23,455	10,300	22,892
Bangor ...	R	2,447	3,249	6,247	3,345	3,796	7,919
	N	142,774	157,857	101,870	195,152	184,451	129,136
Ballina ...	R	5,881	5,553	16,691	8,038	6,489	21,158
	N	235,919	392,281	296,779	344,790	458,687	376,214
Sligo ...	R	1,481	958	2,456	2,024	1,119	3,113
	N	16,118	21,759	18,597	22,032	25,424	23,574
Ballyshannon ...	R	2,096	2,017	1,630	2,866	2,357	2,067
	N	157,052	92,360	87,069	214,670	107,918	110,374
Letterkenny ...	R	4,457	4,390	8,457	6,092	5,130	10,721
	N	315,885	476,321	268,326	431,774	556,557	340,146
Dundalk ...	R	214	723	1,013	293	845	1,284
	N	23,656	17,046	23,511	32,334	19,918	29,803
Drogheda ...	R	481	2,310	3,338	658	2,699	4,231
	N	14,653	16,332	22,991	20,029	19,079	29,144
TOTALS ...		2,188,304	1,992,277	1,812,190	3,013,531	2,332,708	2,297,235

*R indicates capture by means of single rod and line;
N by means of nets, weirs etc.

APPENDIX No. 13

Quantity and Value of Sea Trout taken in 1973, 1974 and 1975 by Fishery Districts.

Fishery District	*	Quantity			Value		
		1975 Kgs.	1974 Kgs.	1973 Kgs.	1975 £	1974 £	1973 £
Dublin ...	R	1,209	1,541	263	1,199	1,359	278
	N	4,195	3,736	4,452	4,162	3,295	4,712
Wexford ...	R	681	1,310	724	676	1,156	766
	N	2,368	2,167	1,780	2,349	1,911	1,884
Waterford ...	R	683	1,014	651	677	894	689
	N	417	206	41	414	182	44
Lismore ...	R	503	386	203	499	341	215
	N	1,977	1,696	2,248	1,961	1,496	2,379
Cork ...	R	2,371	2,224	1,390	2,353	1,961	1,471
	N	1,114	801	1,358	1,105	706	1,437
Kerry ...	R	4,297	3,993	1,702	4,263	3,521	1,801
	N	2,214	1,037	271	2,196	914	287
Limerick ...	R	8,421	7,816	1,804	8,355	6,893	1,909
	N	15,568	16,380	3,958	15,445	14,444	4,188
Galway ...	R	768	953	686	762	840	726
	N	2,197	1,953	15	2,179	1,722	17
Connemara ...	R	4,223	5,366	2,268	4,190	4,732	2,400
	N	983	637	343	976	562	363
Ballinakill ...	R	2,295	2,586	590	2,277	2,281	624
	N	1,197	1,048	178	1,188	924	189
Bangor ...	R	2,823	4,251	1,294	2,800	3,749	1,369
	N	1,798	949	272	1,784	837	288
Ballina ...	R	1,872	1,952	1,101	1,857	1,721	1,165
	N	1,570	1,259	177	1,558	1,110	188
Sligo ...	R	329	382	227	326	337	240
	N	378	163	15	375	144	15
Ballyshannon ...	R	629	679	159	624	599	168
	N	3,345	925	665	3,318	816	703
Letterkenny ...	R	2,758	4,062	616	2,736	3,582	652
	N	1,764	737	981	1,750	650	1,038
Dundalk ...	R	696	747	469	690	658	495
	N	1,751	863	338	1,737	761	358
Drogheda ...	R	1,515	2,338	2,005	1,503	2,062	2,122
	N	2,043	1,028	–	2,026	906	–
TOTALS ...		80,952	77,185	33,244	80,310	68,066	35,180

*R indicates capture by means of single rod and line;
N by means of net, weirs etc.

APPENDIX No. 14

Quantity and Value of Eels taken in 1973, 1974 and 1975 by Fishery Districts.

Fishery District	Quantity			Value		
	1975 kgs.	1974 kgs.	1973 kgs.	1975 £	1974 £	1973 £
Wexford ...	8,137	–	–	14,321	–	–
Waterford ...	2,003	–	2,272	3,525	–	3,255
Lismore ...	102	–	–	180	–	–
Cork ...	787	–	–	1,385	–	–
Limerick ...	34,996	39,200	40,232	61,593	45,803	57,653
Galway ...	17,567	18,435	34,247	30,918	21,540	49,076
Ballina ...	2,180	2,195	152	3,837	2,565	218
Sligo ...	2,541	119	4,436	4,472	138	6,357
Ballyshannon ...	6,422	3,115	6,100	11,303	3,640	8,741
Letterkenny ...	–	–	227	–	–	325
Dundalk ...	344	386	1,301	605	450	1,864
Drogheda ...	3,652	3,856	1,405	6,428	4,505	2,013
Total ...	78,731	67,306	90,372	138,567	78,641	129,502

Note–The catch figures set out above are based on returns which are not complete. This explains any apparent inconsistency between the figures and the official export figures in any particular year.

APPENDIX No. 15

Total Quantity and Value of Salmon, Sea Trout and Eels taken by all engines in 1973, 1974 and 1975 by Fishery Districts

Fishery District	Total weight for District			Total Value for District		
	1975 kgs.	1974 kgs.	1973 kgs.	1975 £	1974 £	1973 £
Dublin ...	6,500	7,815	7,478	6,858	7,667	8,492
Wexford ...	24,506	10,562	11,874	35,552	11,374	14,528
Waterford ...	286,925	181,701	272,488	392,563	211,959	359,612
Lismore ...	180,699	122,411	122,294	246,102	146,604	154,513
Cork ...	334,140	194,296	165,990	455,727	226,158	209,844
Kerry ...	107,676	69,522	90,419	144,738	80,009	114,206
Limerick ...	258,440	234,058	261,566	358,021	266,550	337,021
Galway ...	142,822	58,721	82,498	201,014	67,778	110,095
Connemara ...	22,742	20,001	17,760	29,136	21,648	21,968
Ballinakill ...	22,013	14,520	22,525	28,871	15,969	28,394
Bangor ...	149,842	166,306	109,683	203,081	192,833	138,712
Ballina ...	247,422	403,240	314,901	360,080	470,572	398,943
Sligo ...	20,847	23,380	25,730	29,229	27,162	33,293
Ballyshannon ...	169,544	99,096	95,622	232,781	115,330	122,053
Letterkenny ...	324,864	485,511	278,607	442,352	565,919	352,876
Dundalk ...	26,661	19,765	26,632	35,659	22,632	33,804
Drogheda ...	22,344	25,863	28,334	30,644	29,251	37,510
Total ...	2,347,987	2,136,768	1,934,401	3,232,408	2,479,415	2,475,864

APPENDIX No. 16

Number, Quantity and Value of Salmon taken by Single Rod and Line in 1973, 1974 and 1975 by Fishery Districts

Fishery District	No. of Fish			Quantity			Value		
	1975	1974	1973	1975 kgs.	1974 kgs.	1973 kgs.	1975 £	1974 £	1973 £
Dublin	80	73	260	217	208	1,054	296	248	1,336
Wexford	442	318	507	1,628	1,307	2,083	2,225	1,556	2,641
Waterford	1,257	2,572	2,934	3,929	11,129	11,590	5,370	13,004	14,692
Lismore	1,210	1,092	752	4,775	3,631	2,378	6,527	4,242	3,015
Cork	853	1,277	877	2,825	4,633	3,052	3,861	5,413	3,869
Kerry	1,232	1,328	2,593	4,174	4,638	9,006	5,706	5,420	11,416
Limerick	2,852	2,381	3,930	9,262	7,884	15,991	12,660	9,212	20,271
Galway	1,139	360	832	4,185	1,241	3,005	5,720	1,450	3,809
Connemara	842	851	608	2,753	2,547	1,935	3,763	2,976	2,453
Ballinakill	409	584	923	1,362	2,109	3,699	1,951	2,464	4,689
Bangor	708	940	1,703	2,447	3,249	6,247	3,345	3,796	7,919
Ballina	1,826	1,739	5,062	5,881	5,553	16,691	8,038	6,489	21,158
Sligo	465	278	670	1,481	958	2,456	2,024	1,119	3,113
Ballyshannon	642	539	446	2,096	2,017	1,630	2,866	2,357	2,067
Letterkenny	1,213	1,335	2,412	4,456	4,390	8,457	6,092	5,130	10,721
Dundalk	51	165	225	214	723	1,013	293	845	1,284
Drogheda	111	476	690	481	2,310	3,338	658	2,699	4,231
TOTALS	15,332	16,308	25,424	52,166	58,527	93,625	71,395	68,420	118,684

APPENDIX No. 17

Number, Quantity and Value of Sea Trout taken by Single Rod and Line in 1973, 1974 and 1975 by Fishery District

Fishery District	No. of Fish			Quantity			Value		
	1975	1974	1973	1975 Kgs.	1974 Kgs.	1973 Kgs.	1975 £	1974 £	1973 £
Dublin ...	2,401	3,200	422	1,209	1,541	263	1,199	1,359	278
Wexford ...	1,517	3,782	1,898	681	1,310	724	676	1,156	766
Waterford ...	1,031	1,532	1,420	683	1,014	651	677	894	689
Lismore ...	833	769	477	503	386	203	499	341	215
Cork ...	3,462	3,259	3,161	2,371	2,224	1,390	2,353	1,961	1,471
Kerry ...	6,111	5,709	3,396	4,297	3,993	1,702	4,263	3,521	1,801
Limerick ...	15,463	15,776	4,657	8,421	7,816	1,804	8,355	6,893	1,909
Galway ...	1,902	2,402	1,781	768	953	686	762	840	726
Connemara ...	8,464	10,753	3,413	4,223	5,366	2,268	4,190	4,732	2,400
Ballinakill ...	3,162	3,527	1,000	2,295	2,586	590	2,277	2,281	624
Bangor ...	7,172	8,506	3,151	2,823	4,251	1,294	2,800	3,749	1,369
Ballina ...	3,174	3,560	2,189	1,872	1,952	1,101	1,857	1,721	1,165
Sligo ...	604	750	425	329	382	227	326	337	240
Ballyshannon ...	1,261	1,362	300	629	679	159	624	599	168
Letterkenny ...	5,067	7,450	1,386	2,758	4,062	616	2,736	3,582	652
Dundalk ...	1,278	1,372	1,110	696	747	468	690	658	495
Drogheda ...	2,806	4,302	2,512	1,515	2,338	2,005	1,503	2,062	2,122
Totals ...	65,708	78,011	32,698	36,073	41,600	16,151	35,787	36,686	17,090

APPENDIX No. 18

Particulars of Receipts and Expenditure by Boards of Conservators for the Year ended 30th September, 1975

Fishery District	Opening Balance £	RECEIPTS					EXPENDITURE			Total Expenditure £	Closing Balance £
		Licence Duty £	Fishery Rate £	Grant from Department £	Misc. Receipts £	Total Receipts £	Wages £	Legal Costs £	Travelling and Misc. £		
Dundalk ...	+2,530	1,007	635	16,850	61	18,553	14,351	315	7,577	22,243	−1,160
Drogheda ...	−2,214	1,876	6,085	12,000	78	20,039	15,105	168	4,760	20,033	−2,208
Dublin ...	+234	2,213	539	ø33,604	982	37,338	15,464	–	22,758	38,222	−650
Wexford ...	+870	1,520	3,355	9,000	93	13,968	12,404	103	3,137	15,644	−806
Waterford ...	−4,974	4,398	3,576	36,000	2,973	46,947	37,594	1,038	11,016	49,648	−7,675
Lismore ...	−352	1,939	8,559	21,000	172	31,670	28,572	328	7,254	36,154	−4,836
Cork ...	+1,123	3,022	1,437	26,000	234	30,693	30,147	819	11,971	42,937	−11,121
Kerry ...	−1,557	3,140	7,707	25,000	1,601	37,448	31,696	330	7,096	39,122	−3,231
Limerick ...	−6,609	7,189	9,088	39,220	1,592	57,089	47,525	1,229	10,134	58,888	−8,408
Galway ...	+6,198	1,312	8,438	12,050	6,609	28,409	18,918	1,896	12,474	33,288	+1,319
Connemara ...	+3,752	701	6,671	3,000	119	10,491	10,037	5	5,552	15,594	−1,351
Ballinakill ...	+656	1,097	2,153	7,500	73	10,823	9,530	11	2,753	12,294	−815
Bangor ...	+910	1,615	3,749	11,000	401	16,765	16,901	80	2,530	19,511	−1,836
Ballina ...	−90	2,629	10,963	10,000	923	24,515	17,975	1,423	6,401	25,799	−1,374
Sligo ...	−1,082	860	2,928	5,000	515	9,303	7,602	76	2,021	9,699	−1,478
Ballyshannon ...	+959	1,393	5,001	16,300	922	23,616	19,328	1,923	5,699	26,950	−2,375
Letterkenny ...	−1,077	4,869	5,334	17,000	327	27,530	23,341	139	9,292	32,772	−6,319
Totals ...	−723	40,780	86,218	300,524	17,675	445,197	356,490	9,883	132,425	498,798	−54,324

ø Includes £17,574 special grant for establishment of Pollution Officer Service for all Boards.

APPENDIX No. 19

PARTICULARS OF LICENCES ISSUED BY BOARDS OF CONSERVATORS FOR THE YEAR 1975.

Fishery District	Annual (all districts)	Annual (district of issue)	Late Season (all districts)	Twenty-one day (all districts)	Seven day (all districts)	Late Season (district of issue)	Foyle Area (one district)	Foyle Area (all districts)	Special local licences (Tidal waters)		Draft Net	Drift Net	Pole Net	Bag Net	Stake Net	Head Weir	Box or crib	Loop Net	Snap Net	Gap, Eye or basket for eels	Long Line for eels	Oyster Dredge	Eel Trap
									Rod	Net													
Dundalk ...	89	72	16	–	–	85	1	2	–	–	49	–	–	–	–	–	–	–	–	10	–	–	–
Drogheda ...	209	103	36	–	39	152	–	–	–	–	61	–	–	–	–	–	6	–	–	2	3	–	9
Dublin ...	445	42	58	–	46	12	–	12	–	–	11	15	–	–	–	–	–	–	–	–	–	–	–
Wexford ...	128	118	–	–	50	151	–	–	–	–	70	–	–	–	–	–	–	–	–	–	–	–	–
Waterford ...	238	730	2	1	41	42	–	–	–	–	10	218	–	1	2	1	–	–	126	11	–	–	–
Lismore ...	176	177	13	–	204	–	–	–	–	–	7	100	–	–	2	–	1	–	12	–	–	–	2
Cork ...	287	258	43	–	175	132	–	–	–	–	43	134	–	1	–	–	–	–	–	–	–	–	–
Kerry ...	207	275	24	–	865	107	–	–	–	–	80	9	–	–	–	–	3	–	–	–	–	99	–
Limerick ...	462	1,199	22	–	199	220	–	–	–	–	125	78	–	–	4	–	5	–	–	71	5	–	–
Galway ...	109	43	40	–	125	12	–	–	–	–	9	38	–	–	–	–	5	–	–	29	5	75	1
Connemara ...	15	21	6	–	222	124	–	–	–	–	–	30	–	–	–	–	–	–	–	–	–	–	10
Ballinakill ...	44	47	14	–	461	53	–	–	–	–	16	35	–	–	–	–	–	–	–	–	–	1	10
Bangor ...	74	56	8	–	245	62	–	–	2	25	12	25	–	1	–	–	–	–	–	–	–	–	2
Ballina ...	136	268	35	–	718	62	–	–	–	–	11	108	–	–	–	–	7	–	–	1	4	–	–
Sligo ...	98	101	11	–	17	15	–	–	–	–	4	11	–	1	–	–	–	–	–	2	11	–	–
Ballyshannon ...	63	70	8	–	133	23	3	2	–	14	101	34	–	–	–	–	1	–	–	9	21	–	–
Letterkenny ...	306	598	90	–	430	229	71	19	32	15	63	211	–	–	–	–	2	31	–	–	1	–	–
TOTALS ...	3,086	4,178	426	1	3,972	1,479	75	35	34	54	672	1,046	–	4	8	1	30	31	138	135	50	175	34

APPENDIX No. 20

Licence Duties Payable on Fishing Engines.

	£
On each Salmon Rod – Annual (valid all districts)	4.00
Do. Salmon Rod – Late Season (valid all districts) ...	3.00
Do. Salmon Rod – Twenty-one day (valid all districts) ...	3.00
Do. Salmon Rod – Seven day (valid all districts) ...	1.00
Do. Salmon Rod – Annual (valid district of issue only) ...	3.00
Do. Salmon Rod – Late Season (valid district of issue only)	2.00
Do. Salmon Rod – Foyle area extension (valid all districts)	2.50
Do. Salmon Rod – Foyle area extension (valid district of issue only)	1.50
On each Draft net	4.00
Do. Drift net	3.00
Do. Snap net	2.50
Do. Bag net	10.00
Do. Stake net	30.00
Do. Head Weir	6.00
Do. Box or crib	10.00
Do. Pole net	2.00
Do. Loop net	0.50
Do. Gap, Eye, Basket or Coghill Net for Eels	2.00
Do. Long line for Eels	2.00
Do. Oyster fishing engine	2.00

LICENCE DUTIES PAYABLE ON FISHING ENGINES OTHER THAN THOSE MENTIONED ABOVE.

Fishery District	Fyke Net (provisional rates)	Eel Trap	Special Local Licences	
			Rod	Draft Net
	£	£	£	£
1. Dublin	0.25	–	–	–
2. Wexford	0.25	2.00	–	–
3. Waterford	0.25	–	–	–
7. Kerry	0.25	–	–	–
9[1]. Galway	2.00	2.00	–	–
10[2]. Bangor	–	–	§3.00	§25.00
13. Ballyshannon	–	–	–	*40.00
14[1]. Letterkenny	–	–	–	‡20.00
			‡3.00	†12.50
17[1]. Drogheda	–	2.00	–	–
17[2]. Dundalk	–	2.00	–	–

‡River Lackagh Tidal Waters. †River Owenea Tidal Waters.
*River Erne Tidal Waters. §Owenmore/Owenduff Tidal Waters.

APPENDIX No. 21

PARTICULARS OF PUBLIC INQUIRIES HELD DURING 1975

Date of Inquiry	Where held	Subject Matter	Decision on Report of Inquiry
22 January, 1975	Tralee, Co. Kerry	Application by Tralee Bay Shellfish Co-operative Society Ltd. for an Oyster Fishery Order in respect of part of Tralee Bay, Co. Kerry.	Application refused.
10th September, 1975	Do.	Application by Tralee Bay Shellfish Co-operative Society Ltd. for an Oyster Fishery Order in Barrow Harbour, Co. Kerry.	Under considera-tion.

APPENDIX No. 22

ABSTRACT OF STATUTORY INSTRUMENTS MADE IN 1975

GENERAL

(a) Drift Nets for Salmon or Trout Fishing (Maximum Length) Bye-law No. 572, 1975 dated 18 March 1975.
Prescribing a maximum length for drift nets used in salmon or trout fishing and
Revoking earlier Bye-laws relating to the length of drift nets in certain fishery districts.

(b) Elections of Conservators (Postponement) Order, 1975 (S.I. No. 174 of 1975) dated 30 July, 1975,
Postponing elections of conservators due to be held in 1975 to 1976.

(c) Bass Fishing Conservation Bye-law No. 577, 1975 dated 8 August 1975,
Prescribing the minimum size of bass which may be taken and fixing a weekly close time during which fishing for bass with any net or weir is forbidden and prohibiting fishing for bass with nets in certain waters off Co. Cork.

(d) Oyster Fishing Licences (Alteration of Licence Duty) Order, 1975 (S.I. No. 247 of 1975) dated 23 October 1975,
Prescribing that as from 1 January 1976 the licence duty payable on an oyster fishing licence shall be £4.

(e) Control of Fishing for Salmon at Sea (Amendment) Order, 1975 (S.I. No. 303 of 1975) dated 11 December, 1975,
Prohibiting fishing for salmon in all areas outside national fishery limits which are within the jurisdiction of the North East Atlantic Fisheries Commission.

(f) Control of Fishing for Salmon Order, 1975 (S.I. No. 310 of 1975) dated 17 December, 1975,
Removing the extended weekly close time imposed on fishing for salmon in certain several fisheries.

LOCAL

(a) Drogheda Board of Conservators (Dissolution) Order, 1975 (S.I. No. 14 of 1975) dated 20 January 1975,
Dissolving the No. 17[1] or Drogheda Fishery District Board of Conservators and appointing an administrator to perform the duties of the Board.

(b) Ballyshannon District Bye-law No. 573, 1975 dated 24 April, 1975,
Prohibiting fishing for salmon or trout by any fishing engine other than rod and line in the tidal waters of the River Erne or of its tributary, the Abbey River.

(c) Cork District Bye-law No. 574, 1975 dated 28 May 1975,
Requiring that every boat used in salmon or trout fishing in the Cork

Fishery District should have a number corresponding with the number on the licence for the net used with the boat painted on its bow and **Revoking** earlier Bye-laws which laid down the same requirement in certain areas of the Cork Fishery District.

(d) Ballina District Bye-law No. 575, 1975 dated 28 May, 1975,
Prescribing a minimum size limit for sea and brown trout which may be taken in the waters of the River Moy from its tidal and freshwater boundary to its mouth and
Revoking so much of the Ballina District Bye-law No. 479, 1951 as relates to that part of the River Moy.

(e) Ballyshannon District Bye-law No. 576, 1975 dated 18 July, 1975,
Revoking the Ballyshannon District Bye-law No. 573, 1975.

(f) Irish Sea (Prohibition on Herring Fishing) Bye-law No. 578, 1975 dated 23 September, 1975,
Prohibiting fishing for herring in the Irish Sea and landing of herring at any place on the coast of the Irish Sea during certain laid down periods between 25 September and 2 December 1975.

(g) Control of Fishing for Salmon (Alteration of Weekly Close Time) Bye-law No. 579, 1975 dated 17 December, 1975,
Revoking the Control of Fishing for Salmon (Alteration of Weekly Close Time) Bye-law No. 565, 1973 which had imposed an extended weekly close time on freshwater portions of certain salmon rivers.

FOYLE AREA

Regulations made by the Foyle Fisheries Commission with the approval of the Minister for Agriculture and Fisheries and the Department of Agriculture for Northern Ireland.

(a) Foyle Area (Suspension of Fishing) Regulations, 1975 dated 29 April, 1975,
Providing for periods during which netting is suspended on the waters of the Foyle Area,
Stipulating the conditions under which netting in the Foyle Area shall be terminated prior to the normal closing of the netting season on 31st August each year,
Providing separate but similar provisions for the River Roe and the remainder of the Foyle Area,
Prohibiting angling in the tidal waters of the River Foyle during any period when netting is suspended on those waters and
Revoking the Foyle Area (Suspension of Fishing) Regulations, 1972.

(b) Foyle Area (Weekly Close Time) Regulations, 1975 dated 29 April, 1975,
Prescribing a 60 hour weekly close time, during which no netting may take place, for the nets operating on the River Foyle, Lough Foyle, and the open sea within the Foyle Area,
Providing for a 72 hour weekly close time for the nets operating on the River Roe and
Revoking the Foyle Area (Weekly Close Time) Regulations, 1974.

APPENDIX No. 23

OUTPUT AND DISPOSAL OF FISH HATCHERY PRODUCE 1974/75

Hatchery	Output (Ova)			Disposal	River system stocked
	Salmon (,000)	Sea Trout (,000)	Brown Trout (,000)		
Parteen ...	1,245			76 eyed ova 80 unfed fry 610 fingerlings 3 pre-smolts 132 smolts	Rivers Glengariff, Adrigole, Ouvane, Coomhola, Mealagh, Ilen and tributaries Brosna, Shannon and tributaries, Corlick, Drumore, Bandon.
Carriga-drohid ...	889			474 eyed ova unfed fry fingerlings smolts	Rivers Glengariff, Adrigole, Ouvane, Coomhola, Mealagh, Bride, Shournagh, Lee below Inniscarra Dam, Corlick, Drumore, Ilen and tributaries, Bandon.
Fanure ...			840	300 Fry 12 Summerlings 339 Fingerlings 43 Spring Yearlings 69 Autumn Yearlings 2 Adults	Various Trust Waters in Cos. Longford, Monaghan, Meath, Westmeath, Sligo, Offaly, Cork, Kerry, Clare and angling interests.
Mullingar ...			1,310	180 Ova 272 Ova 656 Fry 3 Summerlings 244 Fingerlings 129 Spring Yearlings 65 Autumn Fingerlings	E.S.B. Various Trust Waters in Cos. Longford, Westmeath, Cavan, Roscommon, Sligo and angling interests.
Screebe ...	140	145		30 Ova 50 Ova 30 Ova 30 Ova 10 Ova 15 Ova 20 Ova 40 Ova 50 Ova 10 Ova	Retained for Screebe Erriff Ballisodare Costelloe, Inver, Inagh, Ballinahinch, Gowla, Cashel. Inland Fisheries Trust for rearing to smolt stage for experimental purposes. Blackwater Roughty Inver Crumlin Fishery, Galway. Retained for Screebe
Mallow ...	40			40 Fry	Clyda and tributaries of Blackwater.
Cong ...	178 102 received from Carrowmore Lake.			Due to high temperatures and low water levels during August 1975, the fry became heavily infected by Ichthyopthirius resulting in the death of all the fry.	

APPENDIX No. 23 (contd.)

Hatchery	Output (Ova)			Disposal	River system stocked
	Salmon (,000)	Sea Trout (,000)	Brown Trout (,000)		
Glenties ...	278			103 Ova 30 Ova 65 Ova 15 Ova 15 Ova 50 Ova	Owenea Bonet Roughty Crana Gweebarra Liffey
Burrishoole Fishery No. 1 (operated by Salmon Research Trust)	61			Reared to Smolts for Research purposes	Burrishoole
Burrishoole Fishery No. 2	112			100 Ova 12 Fry 5 do.	Barrow Erriff Lagaroony
Virginia ...	300 103 received from Carrow-more Lake		100	77 Fingerlings 5 do. 65 do.	Boyne Liffey Boyne
Carrowmore Lake Incubating Unit	235			102 Ova 103 do. 30 do.	To Cong Hatchery for rearing to underyear-ling stage. To Virginia Hatchery for rearing to under-yearling stage. The fingerlings were released into the Boyne. Lower Clyda, Ballin-garret.

APPENDIX No. 24

SCIENTIFIC AND OTHER PAPERS

1. DEPARTMENTAL

A. IRISH FISHERIES INVESTIGATIONS

Series B (Marine)

No. 15. J. H. Wilson and R. Seed. Reproduction in *Mytilus Edulis* L (Mollusca: Bivalvia) in Carlingford Lough, Northern Ireland.

No. 16. J. P. Hillis. Captive rearing of larvae of *Nephrops Norvegicus* (L).

B. FISHERY LEAFLETS

No. 66. A. E. Went. Interesting Recaptures of Tagged Salmon in Ireland in 1974.

No. 67. D. T. McCarthy. The Movement of Salmon from the South Coast of Ireland 1973/74.

No. 68. D. T. McCarthy. The effects of Drainage on the Flora and Fauna of a Tributary of the River Boyne.

No. 69. C. Moriarty. Eel Research in 1974.

No. 70. J. Molloy. The Summer Herring Fishery in the Irish Sea, 1974.

No. 71. J. Molloy. Herring Fisheries on the South and South West coasts, 1974-75.

No. 72. T. D. Kennedy. Herring investigations on the North West and West coasts.

No. 73. A. E. J. Went. Mariculture in Ireland. Policies and problems.

No. 74. M. Crowley. Making more money from Periwinkles.

2. OTHER PUBLICATIONS

D. Minchin. The occurrence of an exceptionally large escallop in the West of Ireland. *Irish Naturalist's Journal* 18. 252-253.

APPENDICES TO THE REPORT ON SEA AND INLAND FISHERIES FOR THE YEAR 1975

APPENDICES TO THE REPORT ON SEA AND INLAND FISHERIES FOR THE YEAR 1975 (contd.)

Appendices 11 to 17 are compiled from returns furnished by licence holders in pursuance of the Statistics (Salmon, Sea Trout and Eels) (No. 2) Order, 1945.

S.O.82/77.119848.Sp.650.4/77.Mount Salus Press Ltd.